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California Cultivator

Los Angeles January 2, 1908 San Francisco

A Citrus Orchard in Northern California

While the Citrus Industry is Largely Centered in Southern California, the Fact That the Central and Northern Part of the State Forwarded 2500 Cars of Oranges Last Year Shows the Wonderful Range Which the Industry Has

Courtesy San Dimas Nurseries

IN TEAGUE'S "Citrus Fruits," in which he gives a record of the past and promise of the future, we note this regarding the citrus north of Tehachapi:

While this development was going on in the southern counties, the American spirit of enterprise was not idle in other sections of the State. In the thermal belt of the San Joaquin Valley, from the southern portion of Tulare county along the base of the Sierra Nevada mountains, there is a vast area of country adapted to the orange and the lemon. Experimental plantings here and there gave early evidence of climate and soil conditions favorable to citrus culture. Notably true was this of the section of which the town of Lindsay is now the citrus fruit center. As a business proposition, oranges and lemons began to be planted in that locality about fifteen years ago, though experimentally and in a small desultory way citrus fruits were known in that neighborhood as early as 1862-'63. Last year (1906-'07) the shipments from Central California aggregated something like 2,000 carloads. For the most part the fruit ripens earlier than in Southern California, thus insuring an independent market which in no way conflicts with the industry as between one section and another. At present there are about 4,500 acres in bearing and fully 11,000 acres, both young and old, planted out. The quality of the fruit is in every way superb, clearly indicating that California's sunshine, soil and climate are quite as good in one section as in another. The natural supply of water in that region is ample, and warrants the prediction that at no distant date orange shipments will be as pronounced from that section as raisins are from Fresno.

Besides these two citrus growing empires within the borders of the state there is also what is known in the trade as the northern citrus belt. For the most part this is somewhat broken up or scattered over several counties, including Placer, Sacramento, Butte, Yuba, Stanilaus, Merced, Sonoma, etc. At particular points in all of the above northern and central counties, there are protected areas free from biting frosts in which citrus fruits find congenial conditions. Thus it will be seen that the orange and lemon, though rated as tropical fruits, yet find a wide geographical distribution in a state which is nothing if not a world unto itself for the growing of almost every fruit of the temperate and tropic zones.

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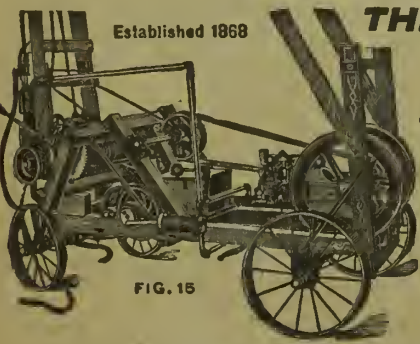

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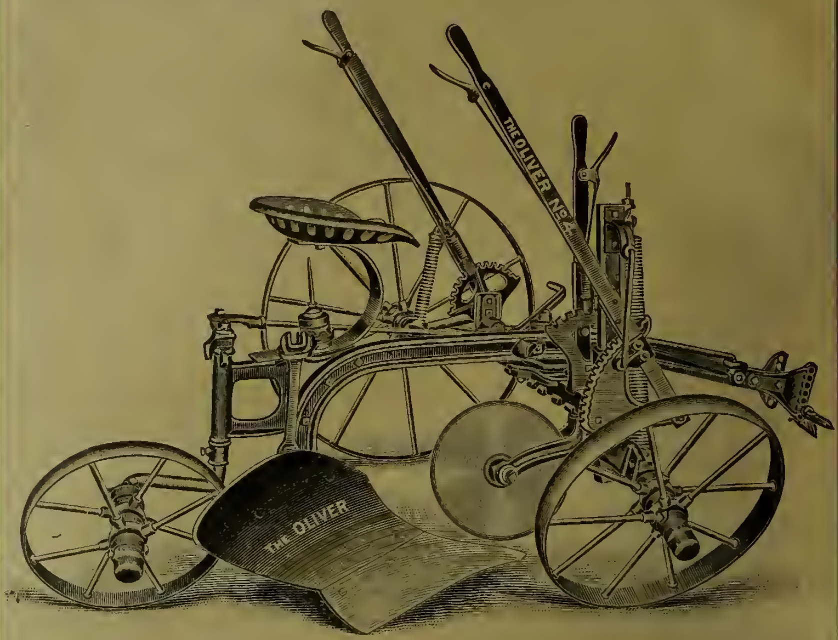

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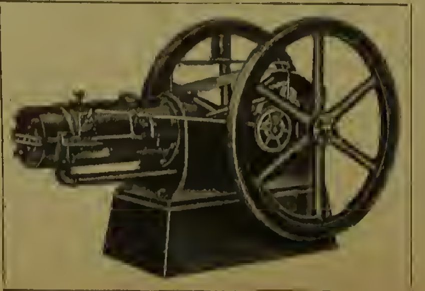

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California Cultivator

Vol. XXX—No. 1 Los Angeles, California, Thursday, January 2, 1908 Subscription $1 a Year

The California Farmer and His Help

Observations by Mary Gray, of Santa Barbara, Who Finds California Employers Give Humane Treatment and, Under the Conditions, Are Fully as Considerate as Eastern Employers

AN IDEA prevailing in certain sections of the East that the California farmer prefers Chinese to white labor, and that when he employs white men is inconsiderate regarding their welfare, compelling them to sleep in bunkhouses instead of in the dwelling, as is the custom upon many eastern farms, that he supplies no bedding, and that he refuses the harvest hands and possible traveler even his barns to sleep in and that he furnishes poor, inadequate food; an eastern editor requested me to investigate these conditions.

A Personal Observation.

Since coming to Southern California I have visited in the vicinity of Los Angeles, San Bernardino, Riverside, Santa Paula, Ventura, Oxnard and Santa Barbara fifteen farms. The larger ranches of well-to-do people. I remained some days at several of these places and at nearly all of them my coming was unexpected.

At nine of the places the help ate with the family. At one the foreman's wife boarded the men. Two ranches had a separate cook-house and dining-room, and three had separate dining-rooms. Of this number I found but two where the food was not really excellent, wholesome, palatable and plentiful, well cooked and well served.

The first of these was where the foreman's wife boarded the men. The food here was plentiful and of fair quality, but ill-cooked and unclean. The owner of this ranch was away at the time.

At the other place scanty food ill-prepared was served the men in their separate dining-room. This was a large ranch with every appearance of afluence and prosperity where many men are employed, but do not remain long at a time. The owner of this property is an eastern man beginning upon his third year of farming in California.

Not Desirable in the Home.

At two places the men slept in the dwelling in comfortable rooms and good beds. However, I was informed by the housewife that owing to the floating element employed the plan, generally speaking, was not feasible. Five had tried having the help sleep in the dwelling and had found the experiment a failure. Considerable of their bedding had to be destroyed when the occupant ceased using it, and more disappeared when the occupant, like the Arab, "silently stole away." At two places I found the help's quarters in sheds and not comfortable, while the remainder had bunk-houses, unfinished for the most part, but well ventilated, clean and comfortable.

Well Educated.

Upon several ranches I met a very fine class of quiet, educated men who were generally satisfied with their employer and surrounding conditions. In most cases they preferred the separate dining-room and bunk-house in preference to the family dwelling. I observed a genial, good fellowship between employer and employee, and noticed that where there were separate dining-rooms the employer usually took breakfast with the help.

Races Preferred.

Of the number of ranchmen with whom I talked but one preferred Chinese, and this man was not, generally speaking, a Californian, he having but recently taken up a residence here. One man employed Mexicans, but had an American foreman, and one liked and employed Japanese. The remainder preferred white men and regretted that the scarcity of help compelled them to hire any other.

During the harvest season I found it true that in some cases men who follow the thrashers are refused the privilege of sleeping in the barns, for this reason: Nine-tenths of the workingmen in the West are addicted to smoking, generally cigarettes, and from this more than one farmer has lost his barns.

The farmer of the East who criticises his ranch-owning brother of the West does not consider that while he of the East permits his help to eat at his board and repose in his feather beds, he is in many cases harvesting his crops with the assistance of neighbors, or farmers' sons in his vicinity. In the West where the farms are larger with several different crops harvested and planted during the year, each man's constant attention is demanded upon his own place and there is no opportunity for this exchange of assistance, and the Californian in a country where good American farm hands are scarce is compelled more often than from choice to employ in his service Chinese, Japanese, Italians, Mexicans of the cholo class, white men recuperating from an overindulgence in liquor, together with an occasional box car tourist, working perhaps long enough to earn a pair of shoes.

Bee Ranches.

I have also visited besides the agricultural farms some twenty bee ranches, or apiaries, throughout Southern California. Many of these places are conducted upon a modest scale, but wherever help was employed I found good food and comfortable sleeping quarters, either in house or tent.

At the Piru apiary of M. H. Mendelson, one of the most extensive bee culturists in the country, I found all white help employed, no other being considered. Here I found food such as would be upon the table of any well-to-do home. Choice meats, fresh vegetables, fruit, fresh milk, eggs, good butter and desserts. This place is situated in a narrow, though pretty canyon, and inhabited only about five months in the year. The buildings consequently are small, though comfortable. The meals here were served in the kitchen, on an oilcloth, clean and white, with good china dishes and plated service. The owner always took his meals with the help.

In the bunk-house, as in many others, the bunks were built one above the other as in sleeping cars. In these bunks were bed springs, mattresses, feather pillows, good comforts and blankets, furnished by the employer, who, however, like the agriculturists in the valleys, found the supplying of these articles an expensive and often thankless task.

A Plunge Bath.

I talked with an employee here, a young man not long from England, who had many grievances regarding his employer. The food was very satisfactory, he said, his bed comfortable, his wages good, and his job the easiest he had ever held, but he wanted sleeping quarters with an upstairs, a porcelain bath with shower attachment, and a full length mirror. By the light of the moon during the wee sma' hours this man was visited unknown to his employer, by his fellow-emplyees and rudely awakened from his slumbers, given a ducking in the horse trough.

Better Than Back East.

After traveling over the greater portion of the United States I have found the Southern California ranch hand invariably treated with more consideration, receiving better wages, having shorter hours, and far more independent than his brother "hired man" of other places.

The poorest fed, poorest housed, and least complaining, also one of the most courteous and gentlemanly classes of men whom I encountered were among the cowboys of Texas, New Mexico and Arizona.

When farming is not made a study it loses dignity, and is no longer worthy of respect. The man who works without thought, works with little effect, and with results always disappointing. The work of every farm should be according to matured plans. Each farmer should have a map of his farm, which he can duplicate, and this should be planned for use. Plats of land of same kind should be placed together, and a record of the crops planted on each should be kept. Copies may be made with carbon paper, and a map filled in should be kept, bound with the other maps. We know one man who has a book of thin paper in which he keeps a plat showing each year's plantings and such memoranda as will be of use. It is time for farmers to be "business men." Order and system are necesary on the farm—as everywhere.

The almost world-wide movement to protect and establish forests has reached China, and the first Chinese school of forestry will shortly be opened at Mukden, according to a recent report by Consul-General H. W. Ragsdale, at Tientsin. The Chinese empire is usually pointed out as the worst example, among modern nations, of forest destruction. The floods which are periodically poured down from the denuded mountains are destructive beyond comparison with any other country, and the want of forests is assigned as the chief cause. Wood is scarcer in China than in almost any other region in the world, although the country is well adapted to the growing of trees. In the establishment of a forest school the Chinese government gives evidence that it realizes the need of beginning its restoration in a scientific manner.

Blessed is the owner of a few acres of God's green earth, for no panics can run away with his holdings. Banks may go down, merchants fail, but the man who owns a few acres of land is prepared to live in any event. Best of all property is the ranch or farm. Most independent of men is the farmer.

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With the Citrus Growers

SOIL.

A writer in the Agricultural Journal gives the following definitions of soil:

A number of definitions have been given. The following are some of them: Soil is a part of the ground which can be tilled and in which plants grow.

The upper stratum of decayed rocks which is mixed with vegetable and animal matter.

The finely divided portion of the surface into which plants send their roots and from which they obtain much of their food.

The part of the surface layer which has been produced by the disintegration of rocks and to which has added more or less of the vegetables and animals.

No matter which definition the student accepts he must bear in mind:

First, that the part of the soil which came from the disintegration of rocks must be finely divided or well pulverized. The rock quarry and gravel pit contain materials which are found in the most fertile soils, yet the materials are unfit to become part of the soil because they are not well pulverized.

Second, that there must be a proper percentage of pulverized rock commonly called mineral matter in the soil. The manure heap, the peat bog or the soil of the barn lot contain too much vegetable matter for the amount of pulverized rock and are consequently, not the ideal soil.

Third, that there must be a proper amount of decayed vegetable and animal matter, commonly called organic matter or humus, thoroughly mixed with the pulverized rocks. The clay bank is an instance of finely divided or pulverized rock, but it can not be called the ideal soil because it does not contain a sufficient amount of decayed vegetable and animal matter.

Taking these requirements into consideration the following definition may percentage of pulverized rocks and de- be given: Soil is the union of a proper cayed plants and animals.

SOME SCIENTIFIC OBSERVATIONS

Dr. Leon Labonde of Los Angeles sends to the Cultivator the following observations on the sugar content of oranges: "I have been very much engrossed by the subject of citrus plants metabolism, which would account for certain peculiarities in the crop of certain sections where the same strain of trees are planted, and cultivated by the same rancher.

It is rather a bigger undertaking than I at first expected to arrive at the rational of respective sweetness and sourness of the orange and the lemon.

Cross pollenization accounts for more than I blamed it for in the first instance, but it does not account for the inversion of the cellulose-like material forming the unripe fruit of the orange into levulose, the parchment-like segments separating the sections must of necessity play a very important part in the work undertaken by nature, and if my first conclusions are substantiated by further observations, then these innocent looking little divisions are simply dialyzers, and the natural inference is that the production of invert sugar or levulose in the orange is not so much the product of plant metabolism, as the product of the plant influenced by plant food, soil, cultivation, etc., but the product of plant morphology, which in turn controls and causes the metabological changes which are evident to the senses when fruits of various degrees of ripeness are examined, the product of the same tree, and the value of careful observations in this field to pomology in its broadest sense is to my mind as likely of important results as the observations of Louis Pasteur in the science of fermentation.

It is but now, when both the great Pasteur and his life-long antagonist, the equally great Von Liebieg, have long since been amongst the world's most illustrious dead, that the greatest difference between these scientists can be adjusted to the satisfaction of both, and the claim of each that he was right acknowledged to the memory of each with perfect truth, and the full measure of justice rendered them for their monumental work on behalf of humanity.

The greatest difference between these two equally great men was the assertion by Pasteur that acidity was caused only by the living oxygen breathing organism, the bacterium aceti, and the denial of the theory as a fundamental truth by Von Liebieg. Both scientists had their followers, and Europe was split into two camps, each backed up by national pride claiming each other's work not scientifically correct.

FROST PROOF ORANGES.

A really frost proof variety of oranges, if good quality, would be a valuable addition to our fruit list. That some progress has been made towards the attainment of this desired end, is shown by the following item from the Tampa Tribune:

It will be many a long day before the memory of the terrible freeze in 1895-1896, which wrought such havoc to citrus fruit crops and brought ruin to so many growers, will pass from the mind of the people of Florida. Many of these are still struggling to recuperate financially from the almost fatal blow they received from the deathly breath of Boreas, while some have long since given up in despair or have died in comparative poverty.

Since those days very marked advances have been made in developing varieties of oranges that will withstand a temperature well below the freezing point, so that they may be exclusively planted in those sections which cannot be said to be immune from an occasional visit of very cold weather. The National Department of Agriculture has succeeded in producing varieties to bear a comparatively low temperature, but we learn through the New Orleans Times-Democrat of what are said to have been highly successful efforts in this direction on the part of an extensive grower, J. L. Normand, of Marksville. The Times-Democrat quotes from the Marksville Weekly News, as follows:

"Mr. Normand will also soon be ready to send an attractive collection of his frost-proof oranges, which he himself has manipulated by crossing them so that the trees producing these hybrids will stand a temperature as low as 10 degrees above zero. This variety he has named the "Carnegie" orange, and the public will be surprised to learn that it took him over twelve years to evolve this fine fruit to its present perfection It is a pleasure to take a walk over his experimental gardens and see the wonderful transformation he has accomplished by the scientific cross breeding of plants. One can see entirely new races of fruit bearing, and ornamental trees that exceed in beauty anything in cultivation in this part of the country. Mr. Normand's work is attracting the attention of the horticulturists far and wide."

It is evidently to the interest of Floridians to investigate regarding the foregoing statement, as the "Carnegie" orange might be a good one to show in the most northerly portions of this State.

FLORIDA ORANGES.

Regarding Florida citrus market conditions the Chicago Packer in reviewing trade at Baltimore said:

"The trade generally was dissatisfied over shipments, claiming the stock was far inferior to what was expected and for which there was a good demand. Most of the complaints came from Florida oranges and the statement was general and tnroughout the entire section, that the stock was far below the average grade and would not sell readily. As a result prices declined somewhat and it was comparatively easy to get the best stock on the market at under $3 during the first few days of the week's trading. Grape fruit was in better condition and brought fairly good prices. It is out of the question, however, to contemplate using the variety of stock sent by the orange growers, as a rule, to this port."

Also in same paper regarding ripening of fruit in Florida we note:

Wauchula has shipped, up to date, about 18,000 boxes of oranges, grapefruit and tangerines, against about 80,000 last year at this time, but owing to the later maturity of fruit this year there is still much fruit on the trees. Much of the fruit from this section going East is shipped via the Ocean Steamship Co.

WHERE THE FLORIDA ORANGE GROWER LOSES.

In a letter to the New York Packer, Wm. H. Earle, of Tangerine, Fla., says:

"I desire to call attention to some very important facts as to orange boxes.

"It is very strange that we should have for so long overlooked the difference in size of the California and Florida orange boxes. I have a letter from the secretary of the California Horticultural Society giving the legal size of the California orange boxes.

A reliable Florida orange packer writes me that a box of Florida oranges, 176 size, will fill a California box and leave besides 26 oranges. In other words, every six boxes of Florida oranges will make seven boxes if packed in the California size box, a loss to the Florida grower of one box of fruit in every six, in competition with California growers. To illustrate: If a box of California and Florida fruit sells at the same price in northern markets, 176 size, for $3.50, the buyer gets 50 cents more fruit if he takes a Florida box than if he takes a California box. Add to this the acknowledged superior quality of Florida fruit and these facts should stimulate the increased sale of our citrus fruits."—Florida Agriculturist.

The acknowledgment of the "Superior quality of Florida fruit" hasn't yet reached California, but lest it may, our citrus growers should take the same steps to "keep the peace" on the Pacific Coast which Uncle Sam is doing, and keep our oranges in the "16 battle ship class."

CALIFORNIA'S FRUIT WORTH TWICE AS MUCH AS HER GOLD.

Fifty years ago California was a mining camp. Today the value of the State's orange and lemon crop is equal to the product of her gold mines. Her total fruit crop is worth twice as much as her gold output.

The returns of the California citrus fruit crop for the season ending November 1st are just now available. They show the shipment of 27,487 carloads, worth about $34,000,000, an increase of 2000 cars over last year.

The market for this fruit is the East and Middle West. Only a fraction of the $34,000,000 worth of oranges and lemons could have been produced or marketed but for freight rates which enable the California grower to compete in any market with the growers of any other section.

The story of the development of the State's fruit trade is duplicated, though perhaps less strikingly, in respect to other products.

The California Board of Trade reports the average yearly product of the soil and the mines of the State as in the neighborhod of $358,000,000. Using round figures, this is divided as follows: Cereals, $39,000,000; other products, $49,600,000; farm animals and their products, $75,000,000; vineyards, $10,800,000; orchard products, $41,600,000; garden products, $6,200,000; minerals, including petrolum, cement and coal, $48,000,000; lumber, $72,000,000, and other forest products, $15,000,000. Wine production has trebled in twelve years, reaching 41,000,000 gallons in the past year.

MEAD'S PLACE FILLED BY GOVERNMENT.

The United States Department of Agriculture has rearranged the work of the irrigation and drainage investigation which has formerly been under the charge of Dr. Elwood Mead. Dr. Mead has recently resigned to assume direction of government irrigation work in Australia. Dr. Samuel Fortier, irrigation engineer in charge of the Pacific district of the irrigation and darinage investigations, and stationed at the University of California, Berkeley, California, has been made chief of irrigation investigations. Mr. C. G. Elliott, for several years past engineer in charge of the drainage investigations of the office, has been made chief of drainage investigations.

Several Southern California orange-growing sections are selling oranges to tenderfeet, allowing them to pick direct from the trees at 25 cents per dozen.

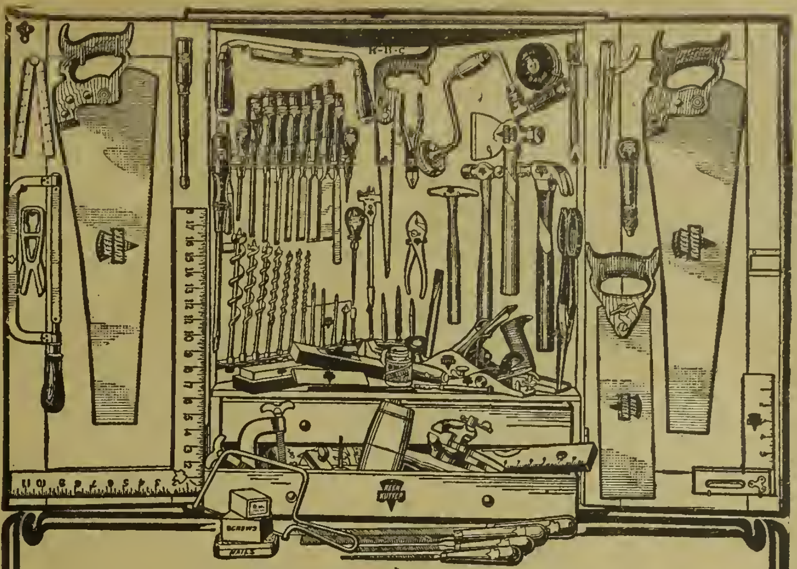
The government forestry nursery, located at Henninger's Flats, on the side of Mt. Wilson, is to be moved to Lytle Creek.

Orange is becoming more and more a shipper of vegetables, forwarding a special car of vegetables each day.

Snow is 50 feet deep in some of the canyons back of Redlands.

Imperial Valley will produce 5000 acres of cantaloupes next year.

Riverside is prosecuting "tree butchers" who multilate trees.



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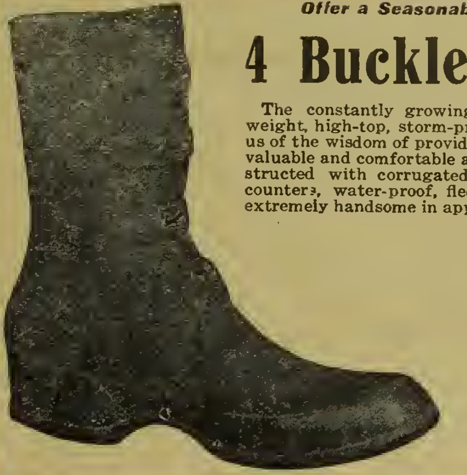

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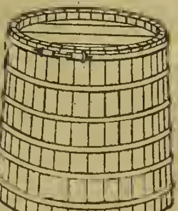

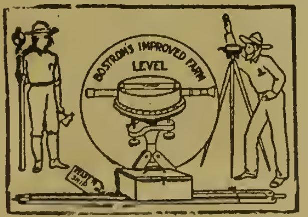

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Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod rod $12.50.
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The Harris Air Pump Company's Twentieth Century Air Lift
For the Alhambra Addition Water Co., where we installed four pumps, from one well we pumped 48 inches with the Harris Air Lift, as compared to 30 inches by the old system, using the same power.
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We wish to call your attention to the fact that we have a large stock of Wood Sole Boots and Shoes of the very best quality. The Uppers are made of the very best quality Milwaukee Oil Grain. The Soles are well-shaped and are an exact and comfortable fit, and our ***Patented Fastening*** makes this a ***Waterproof*** Shoe. We all know wood is a non-conductor, consequently it is much drier and a great deal ***warmer*** in Winter. They are lighter than Rubber or Leather Shoes and Boots. Shoes, $2.00; Boots, $3.25.

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$40 to $65 Per Acre

Empire Ranch

Kings County near Fresno, Cal.

19,000 Acres Sediment Loam soil. No alkali. Lying along and riparian to Kings River. Over 50 miles of ditches.

Water Right Free

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7,000 acres sold to satisfied settlers, and more than 1500 acres in grapes. Write for descriptive matter.

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West Coast Healing Powder

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Saddle and Collar Galls.

Works like a charm on all kinds of cuts, burns and sores, raw, running or ulcerated.
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Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to

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Pedigreed and Registered Stock
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VENADERA HERD OF REGISTERED JERSEYS

FOR SALE—RICHLY-BRED YOUNG bulls from cow having High Official Yearly Records. Also a few heifer calves of best breeding. For particulars address.

GUY H. MILLER,
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John Lynch Breeder of Registered **Shorthorns**
MILK STRAIN
P. O. Box 321 *Petaluma, Cal.*

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Live Stock and Dairy

COW COMFORT.

IN California we live in a so-called temperate climate. Yet, how we sit close to the fire and shiver evenings. The cows are out in the field or corral and the cold wind from the snow-covered mountains strikes them full force. The blood grows thin in California, and who does not find a warm blanket grateful at night. What about the cows? It takes more feed to keep them warm if no shelter is provided. While close stabling is to be deplored as practiced in the East, yet are we not going to the other extreme? In speaking with the veterinarians in the various parts of California, they all tell me of the numerous cases of congestion of the lungs found among the cows. Now, if a cow does not die from a cold chill, it certainly makes them more susceptible to tuberculus germs. This bacillius finds lodgment on abraded spots of the muscous membrane of the lungs, stomach or intestines.

Shelter From Cold Winds.

When the rain comes down in driving sheets and everything is wet and muddy, it is not easy to make cows clean enough to milk. Suppose they lie down in this mire to sleep? What a mess to be sure. When the clear starlight nights with the sharp winds that sting, the milk flow drops down, for the blood is used for furnishing body heat instead of making milk. Every pasture should have a shelter in it for the stock. On windy days the stock will be found seeking its shelter to chew their cud. A shed built at a trifling cost answers the purpose. Cut poles of any kind from the trees at hand. Stand these straight and put them down two feet deep into the ground. Cross poles are wired to the tops and then more cross poles, until they are every two feet across the top. Wire the poles at every cross pole to make it more secure. The roof is put seven or eight feet high at the back and twelve feet at the front of a shed sixteen feet wide. The low side is to the direction of the cold winds. The top, back and one end is closed in by using the brush from the trees or by making a thatch of palm leaves. Before standing up the poles, use the scraper and mound up the earth six inches above the soil to secure drainage in every direction under the shed. In many pastures are found spots of Johnson grass, Bermuda grass or Morning Glory; on one of these put the shed and the shed and the weeds will disappear completely under the constant tramping.

Barn Yards.

The sanitary barns are without a barn yard. One side of the barn is placed the long, narrow way for the cattle entrance. On the opposite end a like way is arranged for an exit. Now this keeps the cows away and no droppings fall around the barn. The rainy time when the cows stand all day around the barn they stamp the earth into mire, and when mingled with manure it becomes very foul.

These smells should not be around where the milk can is; it adds this effluva to its taste. Yet how accustomed the public is to manure flavored milk. A test of this was made a year or so ago. Milk was drawn and held in a sterile condition; then given to some people to taste. They were sure it was not good as it tasted flat. More milk was taken, some sterile. Of the two lots one had manure added to it; the other had some hair and scurf from the cards. After twelve hours the milk was again tasted. Four approved the manure flavored milk, while the other person liked the hair flavored, as it was nice and "cowy." None enthused over the flavor of sterile milk.

Paved Yards.

The round cobble stones in the washes around Los Angeles have an inviting look, for what could be better to pave around the barn. We will have the yards all paved when we learn to love the cows and the farm; these little things will come almost by magic when the pride of the farm center there. The heart's desire always comes when it is centered in material things. The stanchion is another survival of the days when cows were broncho; now that cows are gentle, there is no longer any need to truss them up in stanchions. I am using a modification of the Biddwell stall and like them very well. The cows are kept clean and the food is not wasted. These stalls have mangers; this feature is not up-to-date; I should modify that part if I was again building and put a flat cement floor in front of the cows. A couple of round iron bars would keep the cows from standing forward when eating and yet allow them to lie down well forward out of the gutter.

Pests.

Lousy cows are common this kind of weather. A little dry sulphur will help when dusted on the back, and sulphur and lard rubbed on the stomach and between the forelegs will further discourage these pests. Flies come in the summer time only, yet if the windows were screened these could be controlled, at least in the barn. Screened windows also, bring with them a further improvement. They stop the practice of throwing the manure out of the windows back of the cows. It is a vile practice, as it soaks into the wood of the side of the barn and makes a bad smelling place. The sides of the barn rot out quickly and the unsightly manure banks up to the windows. The odor is wafted in, not as ambrosia, and is taken up by the milk in the pail. I feel sorry that these things meet the traveler's eyes from the trains as he sees the high conical piles of manure at nearly every barn. What can he think of the California diaryman? A manure carrier swung back of the cows, running from the barn out to a wagon, and there dumping its load to be hauled out daily to the fields, is a labor-saving device.

New Year.

Every dairyman must make this New Year resolve: Clean milk. Clean ranch. Clean hands.

You think it would not pay? These things pay in the health of the cows. In the self respect and approval of your higher self. The time has come when the government is going force this care to save the health of its

For practical cow milking machine see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

THE BEST LINIMENT
OR PAIN KILLER FOR THE HUMAN BODY

Gombault's
Caustic Balsam
IT HAS NO EQUAL

For the Human Body —It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons Exterior Cancers, Boils Corns and Bunions CAUSTIC BALSAM has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

A Perfectly Safe and Reliable Remedy for
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- **and all Stiff Joints**

REMOVES THE SORENESS—STRENGTHENS MUSCLES

Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than $120.00 paid in doctor's bills." OTTO A. BEYER.

Price $1.50 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet R.

The LAWRENCE-WILLIAMS COMPANY, Cleveland, O.

Clean Skimming Means Good Living

The hog trough is no place to put butter.

Wide awake farmers want the cream separator that skims the cleanest. It means more profit—better living. That separator is the Sharples Dairy Tubular—the separator that's different.

Sharples Dairy Tubulars have twice the skimming force of any other

separators—skim twice as clean.

Prof. J. L. Thomas, instructor in dairying at the agricultural college of one of the greatest states in the Union, says: "I have just completed a test of your separator. The skimming is the closest I have ever seen—just a trace of fat. I believe the loss to be no greater than one thousandth of one per cent."

That is one reason why you should insist upon having the Tubular. Tubulars are different, in every way, from other separators, and every difference is to your advantage. Write for catalog S-260 and valuable free book, "Business Dairying."

The Sharples Separator Co.,
West Chester, Pa.
Toronto, Can. Chicago, Ill.

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Anthrax
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Blackleg
VACCINES

Are given the preference by 80% of California stockmen because they give better results than others do.

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Nelson Teeter, Corona, Cal.

Successor to Peabody Wall Co.

Registered Jersey Cattle

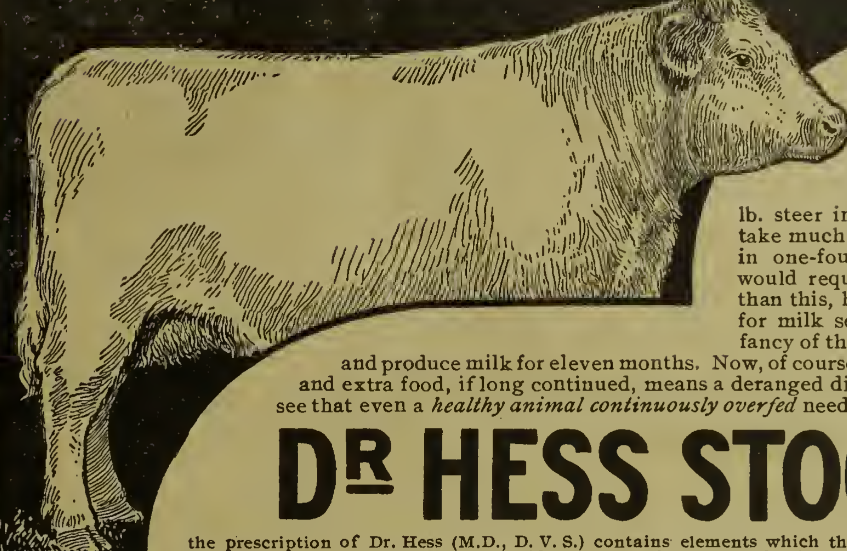
Several young Bulls for sale. Also the famous B. B. Marigold Bull, 5 years old.

Berkshire Hogs

Young stock for sale. Address

Nelson Teeter, Corona, Cal.

Do Healthy Animals Need A Tonic?



Probably not, if always permitted at liberty to secure such diet as Nature intended. We must remember, however, that the animal *domesticated* is subject to unnatural conditions. The feeder is striving to make a 1000 lb. steer in a year's time, when Nature would take much longer. He is making a 200 lb. hog in one-fourth the period unassisted growth would require for the same operation. More than this, he is asking the cow, whose capacity for milk secretion was limited to the brief infancy of the calf, to do violence to Nature's plan and produce milk for eleven months. Now, of course, extra production means extra food, and extra food, if long continued, means a deranged digestive system. Hence it is easy to see that even a *healthy animal continuously overfed* needs the assistance of a corrective tonic.

DR HESS STOCK FOOD A TONIC

the prescription of Dr. Hess (M.D., D. V. S.) contains elements which the most advanced medical science recommends for the conditions we are considering—iron for the blood—bitter tonics for digestion and nitrates to expel poisonous matter. It gives appetite for roughage, thus saving more costly foods, and by increasing assimilation saves nutriment that would otherwise enrich the manure heap. Dr. Hess Stock Food makes more milk, hastens the fatting of a steer or hog and is the best known tonic preparation for horses. **Sold on a written guarantee.**

100 lbs. $7.00; 25 lb. pail $2.00 Smaller quantities at a slight advance.

Where Dr. Hess. Stock Food differs in particular is in the dose—it's small and fed but twice a day, which proves it has the most digestive strength to the pound. Our Government recognizes Dr. Hess Stock Food as a medicinal compound and this paper is back of the guarantee.

Free from the 1st to the 10th of each month—Dr. Hess (M. D., D. V. S.) will prescribe for your ailing animals. You can have his 96-page Veterinary Book any time for the asking. Mention this paper.

DR. HESS & CLARK, Ashland, Ohio.

Also Manufacturers of Dr. Hess Poultry Pan-a-ce-a and Instant Louse Killer. Instant Louse Killer Kills Lice.

THE PETALUMA INCUBATOR CO., Petaluma, Cal., Pacific Coast Distributers.

DON'T BUY GASOLINE ENGINES UNTIL YOU INVESTIGATE "THE MASTER WORKMAN," a two-cylinder gasoline, kerosene or alcohol engine, superior to any one-cylinder engine; revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durability. Costs Less to Buy—Less to Run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or traction engine. SEND FOR CATALOGUE. **THE TEMPLE PUMP CO., Mfrs., Meagher and 15th Sts., Chicago.** THIS IS OUR FIFTY-FIFTH YEAR.

people. The dairyman must be ready to respond to the call of "Where is thy brother?" Tuberculosis is a filthy disease. It is not polite to say so, yet is it not the producer of filth that necessarily secures a victim. The hovel in the slums poisons the rooms of the palace. Now, as dairymen, let us resolve that in this year 1908 we will begin by making the surroundings of the herd as clean as possible. That we will uphold the laws of sanitation. We will stand for "Clean cow! Clean corrals! Clean conscience!"—M. E. Sherman.

AMERICAN SHORTHORN BREEDERS' ASSOCIATION.

During the year ending October 31, 1907, the American Shorthorn Breeders' Association received 48,660 pedigrees, with fees amounting to $58,929, a gain of 1029 pedigrees and $2145 in fees over the previous year.

Three directors whose terms expired this year are re-elected. They are H. F. Brown, of Minneapolis, Minn.; J. F. Hogencamp, of Fort Worth, Tex., and J. F. Prather, of Williamsville, Ill.

ABERDEEN ANGUS ASSOCIATION.

At the recent annual meeting of the International at Chicago, the Aberdeen Angus Association elected the following directors: W. N. Foster, Attica, Ind.; Harvey J. Hess, Waterloo, Ia., and Stanley R. Pierce, Creston, Ill., to the Board of Directors. The board later chose W. J. Miller, of Metz, Iowa, as president; Geo. Kitchen, as vice-president, and elected Chas. Gray, the present secretary of the Galloway Association, as secretary.

AMERICAN POLAND-CHINA ASSOCIATION.

At the recent annual meeting of the American Poland-China Record Association, the following officers were elected: President, H. E. Singleton, McKinney, Tex.; secretary, W. M. McFadden, Chicago; treasurer, J. W. Blackford, Hillsboro, Iowa; directors for a term of three years, P. W. Patterson, Vermilion, S. D.; C. F. Dietrich, Richmond, Kan.; J. M. Stewart, Ainsworth, Iowa. The executive committee is: G. E. Leslie, Memphis, Mo.; Ed. Klever, Bloomingsburg, Ohio and J. M. Kemp, Kenney, Ill.

AMERICAN DUROC JERSEY SWINE BREEDERS' ASSOCIATION.

At the annual meeting of this association held at Chicago recently it was announced that 5866 hogs were registered during the year, an increase of 1882 over 1906. H. L. Igleheart, Uniontown, Ky., former vice-president, was made president; Edwin Hummer, Iowa city, Iowa, vice-president and T. B. Pearson, Thorntown, Ind., was re-elected secretary and treasurer. M. L. Wightman, Illinois, and R. C. Watts, Ohio, were elected directors. The capital stock was increased from 900 to 1200 shares.

PERCHERON SOCIETY.

The Percheron Society of America held its annual meeting at the office of Secretary George W. Stubblefield, at the Stock Yards, Chicago, recently.

The registrations for the year totaled 5521, of which 4888 were domestic and 633 imported animals. There were 2511 stallions and 3010 mares registered. There were 480 shares of stock subscribed by new members of the society during the current year.

The following officers were re-elected: H. G. McMillan, president; H. A. Briggs, vice-president; J. L. Delaney, treasurer; George W. Stubblefield, secretary.

SHOPSHIRE ASSOCIATION.

At the annual meeting of the American Shopshire Registry Association, Richard Gibson, of Delaware, Ont., was elected president for the ensuing year; H. L. Wardell, of Springfield Center, N. Y., vice-president, and Mortimer Levering, of Lafayette, Ind., secretary-treasurer. Three directors elected for a term of three years were G. Howard Davison, of New York, J. G. Hanmer, of Ontario, and H. A. Chandler, of Iowa.

SUFFOLK BREEDERS' ASSOCIATION.

At the annual meeting at Chicago recently, the Suffolk Breeders' re-elected the following: President, S. Melvin, Greenfield, Iowa; vice-president, James Bowman, Guelph, Ont.; secretary-treasurer, G. W. Franklin, Des Moines, Iowa. The Board of Directors, of whom there are three, elected for a term of three years, are: D. M. Cloyd, Dublin, Va.; W. C. Morse, Joliet, Ill., and G. N. Dean, Shelbyville, Mich.

TUBERCULIN TESTS DO NOT REDUCE MILK FLOW.

Dr. S. H. Guilliand, of Morutta, Pa., in a paper read before the American Veterinary Society, at Kansas City, Mo., in September, stated that in a series of experiments with 658 cows, that none of the healthy animals showed any decrease in the amount of milk they gave on account of the test. He said that there should be no fear on the part of dairymen to have their cows tested, for only the affected cattle would produce less milk on account of the test.—Hoards

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

Only One "BROMO QUININE"
That is LAXATIVE BROMO QUININE. Look for the signature of E. W. GROVE. Used the World over to Cure a Cold in one day. 25c

La Fayette Stock Farm
La Fayette, Ind.
The Largest Importers in America of
German Coach, Percheron and Belgian Stallions
Stock For Sale at Our Stables, State Fair Grounds
All Stock sold under a guarantee, Terms to suit buyers.
J. Crouch & Son
North Fort Worth, Texas
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Obtainable at All Druggists and General Dealers

Use
"Western" Condition Powders
for Horses and Cattle
The Best Tonic on Earth
Put up by 1-lb. Package, 25 cents
Western Wholesale Drug Co.
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20 Cows Are Easily and Cleanly Milked per Hour
WITH THE
Mehring Foot Power Milking Machine
A. F. Steiner & Co., 2408 Grove Street, Berkeley, Cal.
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Distributing Agents for Southern California

Thoroughbred Poland China Swine
Black Minorca and Barred Rock Poultry
High Grade Stock of Best Strains.
Young Stock For Sale
M. Bassett *Hanford, Cal.*

Berkshires--Shorthorns
My Berkshires took every blue ribbon and Gold and Silver Medal in the female classes. Choice pigs at low prices. G. A. Murphy, Perkins, Cal.

Geo. C. Roeding, Fresno, Cal, breeder of
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

The Whiting Jersey Stock Farm Company
Is making the very best strains of blood fresh from the island of Jersey a specialty.
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CALIFORNIA RANCHING
Are you coming to the Coast or interested in our methods and crops? The California Cultivator is the leading practical agricultural, stock and poultry paper in the state. Weekly. $1 per year; six months, 50c. Subscribers, inquiries answered free. Address Cultivator Publishing Co., Los Angeles

The Kentucky
Grain Drill

Is the simplest, strongest, most durable and most up-to-date drill on the market to-day. Is made to last and give satisfaction. Investigate before you purchase.

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Fruit Trees

Thousands of dollars saved by farmers by patronizing us. 50,000 Lob Ingir Smyrna Fig trees, 4 to 6 ft. in lots of 100 at $12.50; 500 and up at $100.00 per 1000.
We won the Gold Medal at the Lewis & Clark Exposition. This is the world famed Fig of commerce.
We have a large stock of Bartlett Pears, Royal Apricots, Orange and Lemon trees, as well as other nursery stock.
Bed rock prices. Send in list of wants. Address
Maywood Colony Nursery, Corning, Cal.
W. Herbert Samson, Prop.

George B. Warner's
Orange County Nurseries
Established 1889
Grower and Dealer in Citrus and Deciduous Trees of all standard varieties

Soft Shell Walnut Trees, 1, 2 and 3 years old. Grafted Placentia on Native Black Walnut Root. Street and Ornamental Trees, Palms, Dracaenas, Blue, Red and Sugar Gums (large stock.) Write for prices.

Sales Yard—Corner Sixth and Main
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Trees That Grow and Bear Fruit

Southern Grown Trees are best. Our trees are thoroughly dormant and acclimated to this southern country. Largest assortment of nursery stock in Southern California. Write us for price list; it is free.

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Orange County Nursery and Land Company
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Fruit Trees and Grape Vines

Full line of ***Commercial Varieties.*** Life is too short to experiment with novelties. This is why we confine ourselves to Money Making Commercial Sorts. All leading sorts of

Apples Plums Peaches
Cherries Prunes Apricots
Wine, Table and Raisin Grape Vines

Get our prices before buying elsewhere. We have been pleasing our customers for 18 years. Large catalogue and Souvenir Picture showing largest tree in the world, mailed free upon application. Address

P. .O Box P. P. 42 **The Fresno Nursery, Fresno, Cal.** F. H. Wilson, Proprietor

Everything For Spraying

Whatever you want for spraying, be it pumps, equipment, or materials, write to us. We can supply promptly and at reasonable prices, Bluestone, Caustic Soda, Arsenate of Lead, Hose, Nozzles, Aluminum Spray Rods, everything.

Bean Spray Pump Co., 161 West Santa Clara St.
San Jose, Cal.

Hanford Nursery Has for the Season of 1908

The finest grade of the leading kinds of Peaches,
Apricots and Muscat Rooted Vines to be had.

J. W. Bairstow, Prop. **Hanford, Cal.**

Deciduous Fruit Culture

WALNUT GROWING IN THE NORTH.

The following by E . A. Epperson in the Alta Californian gives the views of a practical Northern grower on walnut culture:

"Perhaps it will be of interest to some of your readers if I call attention to the value, quick growth and bearing qualities of the French walnuts, the Franquette and Mayette. Both are claimed to be nuts that originated some two hundred years ago in France by the men whose names they bear.

"The Mayette is a rapid grower and a regular bearer. The shells of the nuts are very soft. The foliage is dense, thereby making a good protection for the green nuts during hot weather. The variety is late putting forth leaves in the spring, and is therefore seldom if ever injured by the late frosts.

"The Franquette in many ways is similar to the Mayette, with the exception that it is not so rapid in growth, and the shells of the nuts are not so soft, This hardness of the shells is an advantage when shipping. The meats of the two varieties are similar, both being very plump, of a sweet flavor and white in color.

"I have a tree of the Mayette variety that was planted in 1890. It commenced bearing five years later, and the last four years gained from ten to fifteen pounds each season. Last year eighty-five pounds of the nuts were gathered and this year there will be one hundred pounds or more. The tree has a spread of thirty-five feet, and is sixteen inches in diameter eighteen inches from the ground.

"To obtain the best results in growing walnuts, plant the California black walnut. Plant them three inches deep, with the point of the nut down. Put five or six nuts in one place, and when they have grown two seasons remove all but the largest. When the little trees are about an inch in diameter, or during the third or fourth season, they should be budded. Best results are obtained by budding from the 15th to the 20th of August. Cut the buds from the seasons growth close to the point where the growth begins and get the buds with small leaves. Use a clean, sharp knife and work as quickly as possible. Cut the bud from the limb, remove all the wood and put in place. Tie with tape one-fourth of an inch wide. After the buds have grown fast remove the tape and let them grow until next season. Then cut the branch off just above the bud.

"During the first season care should be taken that the wind does not break the branch off. It is sometimes necessary to tie them to some support during the first season. The trees should be planted at least forty feet apart, and sixty feet is even better, as they continue to grow and spread for many years."

SHIPMENTS OF GREEN FRUIT

Regarding the shipments of California fruits the following is from the S. P. railroad headquarters in New York:

During season ended October 31, 1906, 5930 cars of deciduous green fruit were shipped East from California. This season to November 1, 7048 cars. This has been a banner year in the green fruit business. California has received more money net than during any previous season. Many cars of fruit brought over $2000 each, while cherries in a number of instances ranged from $3000 to $5000 per car.

Total Northern California shipments of vegetables, green deciduous and citrus fruits during the season just closing have been 10,912 cars, or nearly a thousand more than last year. From Southern California shipments via all lines were 27,533 cars of citrus fruit and 3477 cars of vegetables.

The prospect for the present season is good. Since October 1, more than 450 cars of deciduous fruits and 1400 cars of oranges and lemons have been shipped from Northern California—a far greater number than during last year's corresponding period.

SLAKING LIME FOR BORDEAUX.

Many orchardists who use Bordeaux find trouble with the lime which improperly slakes thus clogging the nozzle. An observing orchardist at Orange writes:

"I have had a great deal of experience in the use of lime for various purposes, including spraying, and the plan of slaking here given will be found satisfactory."

He then adds:

The slaking of lime is generally considered a very simple process, yet there is a right and a wrong way of doing it. To secure the best results, put fresh stone lime into a vessel in sufficient quantity to take up one-quarter of the space, pour some hot water upon it and as soon as it commences to open and heat add cold water to cover and keep adding water to cover as the lime swells, stirring so that the mass will not "burn" or become dry-heated. Cold water may be used altogether, but the process is hastened by the use of hot water. As soon as the boiling process stops, cover and leave for ten minutes, when you will have a paste-like mixture and one that, when properly diluted, will strain well and will not clog the nozzle of the spray pump. Use only fresh stone lime. This process will give to the mixture the full strength of the lime. Perfection is secured by keeping the lime well covered with the water while slaking and getting the water to all of the particles as quickly as the lime will take it up.—J. F., Orange, Cal.

TO SAVE TREES FROM INSECT PESTS.

Besides keeping up the reputation of its fruit products by stringent rules that prevent the shipping af all fruits that do not come up to the highest standards of quality, Medford, Oregon, pear growers have reduced to a science the methods of fighting insect pests.

To discover just the right time to attack the codling moth, one of the greatest foes of fruit trees in that part of Oregon, a selected tree is completely surrounded by a wire cage, in which the moths are confined. By careful observation of their development it is possible for the grower to know almost to an hour when he should begin to spray all his trees so as to destroy the moth without injuring the fruit.

By methods of this kind Oregon fruit growers have raised the quality of their product to a point where they now command the highest

TREES

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prices in the world's markets. Oregon pears have brought as much as $6.50 per box in New York during last season. One Central Point orchard of 16 acres produced pears worth $20,000. The highest record for production by a single tree was made by d'Anjou pear tree in the Medford district that yielded 45 boxes this season which sold for $5.60 a box, netting the grower $204.75.

Oregon's entire fruit crop for the year shows an increase in value of 53 per cent over last year or $4,275,000 for all fruits including prunes.

SULPHUR RULES TO BE ANNOUNCED SOON.

California dried fruit interests are now assured by Secretary of Agriculture Wilson, of definite rules regarding the use of sulphur in drying fruit. Representatives Needham, Hayes and Smith consulted the Secretary recently requesting him to go to the relief of the fruit men so that they might know just where they are.

The Secretary informed them that agents of the department are now in California buying dried fruits at grocery stores and sending samples to Washington for analysis. The Secretary said he expects to have full reports in thirty days, and that the rules governing the use of sulphur will be announced February 1.

SULPHUR RULING.

Dispatches from Washington say that Sec. Wilson has not yet received reports from the chemists and that more tests are to be made of sulphured fruits under varying conditions and it was expected that four weeks would be required. He would then pass upon the report and reach a decision as to whether the pure food regulations should stand.

Secretary Wilson said that the chemists have made several interesting discoveries which have changed their former opinions as to the injuriousness of sulphur to fruit. One was that the amount of sulphur diminished with the lapse of time and also in cooking. Therefore fruit was not to be judged by the amount of sulphur in it when purchased, but only when actually ready for use.

The secretary said that he wanted to assure the California people that he was not going to be swayed entirely by the scientists.

"We have to have scientists," he said, "but common sense is a good guide, too. If the report suits me I will approve it, but if it is not in accordance with what I think is common sense, I shall disapprove it. You can say to the California people that I will not be used as an instrument to close up the industries of California if I can prevent it."

The Californians left the department convinced that the fruit industry of the state would not suffer from the chemists' report.

FRUIT SHOW AT PURDUE

Great interest is being shown by the fruit growers of Indiana in the announcement that the State Horticultural Society is offering $300 in cash for premiums for the Fruit Show to be held at Purdue University, during the week of the Farmers' Short Course, Jan. 13-18, 1908. This money is being offered because the Indiana Horticultural Society feels that the resources of Indiana as a fruit state, and the possibilities for making money in commercial fruit growing are not understood as they should be by farmers of the state.

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TREE OWNER SURPASSES ROCKEFELLER.

"In a few years nearly all the timber in the United States outside the government forest reserves will be exhausted, with the exception of vast tracts in the hands of one or two men, and each of these men will have wealth greater than that of Rockerfeller and Carnegie put together," said Secreary Wilson in an interview reported in the Washington Post.

"Rockefeller is now considered the modern Croesus," continued the Secretary, "but the lumber king of the future will far surpass him in the riches at his command. And why not? The forests of the West, through fires and the inroads of lumbermen, are disappearing year by year much more rapidly than they are growing. Generations must come and go before we can replenish the virgin forests of a few generations ago.

"One man in that country out there already has 30,000,000 acres under his control. We have only five times that amount under control of the government. We hold our supply to protect the watershed. He holds his for profit. In a quarter of a century from now, when the supply of timber is almost gone and the demand for it has vastly increased, think of what those 30,000,000 acres and perhaps more that may be added to them will be worth."

Secretary Wilson said he knew the name of the one man who had amassed this wealth of timber, but declined to give it. He said his own business was with the forests in the reserves.—Forestry and Irrigation.

FARM AND GARDEN LABOR SAVERS

The daily work of farmers, truckers and market gardeners isn't as hard as it used to be. The labor has been lessened and at the same time results have been increased. A man can get more bushels of grain or truck from an acre of ground today than he could a few years ago and he doesn't have to work so hard to do it. The adoption of up-to-date methods, in which the Federal Government with its experimental stations is aiding him, and the use of up-to-date tools, which the agricultural implement makers have put on the market, combine to take away the greater part of the drudgery that was formerly a necessary part of agricultural effect. Along this line nothing has contributed so much as the tools known as "Planet, Jr." These implements not only lighten and lessen farm work, but they save seed, time and money.

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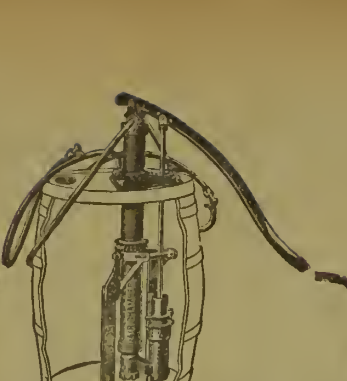

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The Ornamental Garden

THIS MONTH.

IF ANY have bulbs of lilies, fresias, narcissus, anemones, ranunculi or hyacinths they should be planted at once. Plant hardy annuals such as pansies, poppies, sweet peas, migonette, etc.

If the rains are uncertain do not let the garden shift for itself too long. Many who give plenty of water during summer care drop into the habit of regarding our "wet season" as wet enough to care for itself. Plants are often injured by negligence at this time of the year.

Spade in manure on beds to be planted later. Spade deeply and let air down into the soil. If the back yard lawn is not yet a reality, consider that, and how nice it would be, and spade in a thick coating of manure. Later it will be in fine condition for the seed.

Early planted sweet peas should receive the best attention in hoeing, watering and mulching.

This is the time to make rose cuttings. In the more protected section the weather has been hardly cold enough this season to make the plant dormant, but if care is used, good, ripe wood selected and cuttings put in sandy soil, a bunch of fine plants may be secured by planting rose cuttings now. Some varieties will never root, but most of them will.

Make cuttings the size of a pencil or larger, eight to twelve inches long and plant half their depth in sandy loam.

It is also easy to grow poinsettias from cuttings. The parent plant should be as near dormant as possible. After cutting the sticks to length, it will do no harm if the cuttings are allowed to lie in a shady place for a few days. It is even better to do so for they are less liable to rot the bark. The writer once forgot a lot of cuttings laid aside and they lay in the sun for two weeks and when planted every one grew.

THE LILY.

THE lily, designated the queen of bulbous flowering plants, is a genus of herbaceous perennials, found native, in temperate parts chiefly, in Europe, Asia, and America, a number of the finest kinds being natives of Japan and California. There are about 50 distinct species in cultivation, in addition to which there are a number of varieties of some of the principal kinds. The lily is certainly one of the finest genera of plants cultivated, the principal factors that conduce to its high position in the estem of horticulturists being the variation in height of the various species, the large and beautiful blooms of many and gorgous shade of color, and the long period during which the many kinds produce their flowers.

Soil and Situation.

The most suitable soil for the majority of lilies is a light and open loam that is thoroughly drained. A few kinds require a sandy, peaty soil to bring them to perfection but as a whole they thrive fairly in a sweet, unmanured, light garden soil. The most common cause of failure is undoubtedly the addition of fermenting animal manures to the soil they are grown in. Poor soils benefit by the adition of leaf-mould, or some very old cow manure in moderate quantity, but even in such soils if unmanured a fair measure of success is certain; while, if heavily manured with gross manure, the bulbs are nearly sure to fail.

A situation where the ground is shaded partially from hot sunshine is an important consideration. The majority of the lily family are found growing in forest regions and in garden practice it is found that they thrive best when lightly shaded from hot sunshine by being planted among dwarf shrubs or plants, or protected by a trellis. The earliest blooming kinds flower in spring, others succeeding them during summer and early autumn, and root action again begins after the flower stems die. In mixed groups and borders where the soil is maintained in a cool condition during summer, many kinds will succeed if undisturbed by digging and other gardening operations, and the soil is sweet, fairly porous, and unmanured. An occasional top-dressing of well rotted leaf mould is beneficial.

Propagation and Planting.

Lilies are propagated from offsets from the parent bulb—small bulbils that are produced in the axis of the leaves in some kinds, and occasionally, from scales of the bulbs. After the flowering is over and the stems die to the ground is the proper time to plant lilies and to effect an increase. The bulbs are practically dormant then, but soon begin to produce roots again for the following season, and an attempt to propagate after the roots are far advanced would result in damage to both bulb and offset. When the leaves on the flower stem have matured, the small bulbils occurring there on L. tigrinum and other kinds are ready for removal. They should be planted in beds of light soil, where they may be allowed to remain until large enough to produce flowers. Propagation from the outer scales of the bulbs is resorted to by nurserymen to increase certain kinds. The scales can be removed without damage to the bulbs and are sown in the manner of seeds when small bulbs are formed which are grown on as in the case of bulbils.

Autumn is the general season for planting most lilies. Trade growers lift the bulbs at the right season, replant the offsets at once, and store the bulbs in a cool, dry place, often in dry sand, to retard root action. Where an increase of plants or patches is desired the plants should be lifted after blooming, and death of the stem, and be replanted at once, but, unless an increase is wanted there is nothing to be gained by disturbing the bulbs. Lily bulbs should be planted at a depth of six or eight inches, according to size of bulbs, species, and soil conditions. Large bulbs of the taller-growing kinds may be planted at a depth of one foot with safety in hot but well drained soils. Fair room should be allowed for each bulb when grown in patches, about eight inches being sifficient for most kinds. In florists' garden some lilies are grown for the cut flower trade, the practice being to grow them in rows in cool soil and not to disturb them for years unless for sale of bulbs.

Selection of Kinds.

Several species of lilies may be procured from the local nurserymen or seedsmen, and will be found to be generally locally grown and acclimatized bulbs. Importing and acclimatizing lilies and other bulbous plants is not an amateur's work, and it is better to buy local bulbs. A fairly representative collection should include Liliums candidum, Brownii, croceum, Thunbergianum, longiflorum, tigrinum, and its varieties, splendens, and tigrinum fl. pl., auratum, pardalinum, speciosum, and varieties.—J. Cronin in Journal of Agriculture of Victoria.

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The Vegetable Garden

THIS MONTH.

GET the hot beds ready for tomatoes, chili, eggplant, sweet potatoes, etc. In protected situations where the soil is a warm, sandy one, even potatoes may be planted this month. Top dress and spade deeply all beds for later planting.

Of course beets, lettuce, radishes, kale, cabbage, etc., may be planted now.

Cucumbers may be planted under frames, to be later taken out and placed in garden.

Berries should be trimmed up, staked and made ready for the new season. Plant new stock of raspberries, also blackberries, dewberries, etc.

Don't forget a few grapes. They may be had without the expense of a cent. The cuttings can usually be had for the asking and they grow so easily. But the few needed for a garden may be cheaply bought rooted and bear much quicker.

Your family orchard should be looked after, and if the list is not complete, buy the few trees and put out this month. Don't delay any longer, but get in the ground so that the roots are forming ready for the earliest start of leaf.

HOW TO PLANT ONION SEED.

We rented a nice piece of sandy soil out toward Glendale, and began the work of raising onions.

I did not know one man could be so many kinds of a fool, as the neighbors called me.

"Any one ought to know that onions would not grow in these interior valleys."

But the writer has great confidence in California soil, water and sunshine; and $2.25 a pound ought to buy good seed.

I counted ten persons who stopped to warn me of failure, because they had planted onion seed repeatedly without getting an onion.

Imitating the practice of the Italian gardeners, I combed out the side beds, to be free of trash, scattered the seed over the surface, as near two inches apart as I could, then covered with fine earth as near ¾ of an inch as I could; then firmed, literally tamped the whole down with a board.

I am quite sure I saw the man I had helping me put a stone in his pocket, at this stage of the game.

Then, in addition to a thoroughly dampened earth with which I started, I kept the beds wet—not just damp—but wet for the ten days the seed was coming up. I also soaked the seed for 14 to 16 hours before planting in the water I used to wet the beds, for sameness of temperature. I am confident I did not lose a seed.

The needle-like plants were very brittle, so care had to be taken in weeding. Also as soon as the young "shoots" were two inches high, I made a sieve of a box and wire screen and sifted a mulch on top of beds one-half or three-fourths of an inch thick.

Whether sown "broad cast" or in rows, the same rules apply, of course, Soaked seed, shallow planting in fine earth, the beds thoroughly "firmed" and kept wet until the plants appear from nine to eleven days, and success will come.

Few things pay so well as high-priced onions. Many a corner would help to a splendid purpose, if onions were planted there. And to raise onions successfully, be assured you will have to work; they take a lot of babying.

As this little paper is addressed to "new-comers," I want to add, do not judge California by back-East conditions. This sunshine, earth and water will raise anything in generous measure if you will do your part.—William R. Lee.

THE SELECTION OF SEED CORN.

The importance of properly selecting and caring for seed corn has been so thoroughly discussed and brought to the attention of farmers in every conceivable way during the last few years that there can be no adequate excuse for any corn grower neglecting to save a good supply of seed corn and put it up in a safe, dry place before killing frosts occur. It is not so much a question of what to do, or how to do it, but rather of getting started to do it. All observing and up-to-date farmers know well enough what should be done, but the habit of letting such things go until some other time causes many to allow themselves to neglect this important matter until it is too late to get the best results. There is plenty of evidence to convince even the most unreasonable man that the time to get the best corn is early in the fall, when it can be selected from the standing stalks and put away in a dry, well ventilated place before damaging frosts occur.

The great majority of farmers in the State do not get more than three-quarters of a full stand of corn in their fields and the result is 20 per cent less corn at harvest time than should be secured, without any more expense in producing the crop. The cause of the imperfect stand nearly always lies in the use of poor seed for planting. If every farmer in the State would get his seed corn properly stored by the middle of October, several millions of dollars would be added to the value of the corn crop next year.

A good way to do is to take a handy basket on the arm or sling a grain bag over the shoulder by means of a stout cord and go into the best and ripest corn field and go up an down the rows and select the best ears from the best hills, taking care to select only from stalks of stout development under normal conditions and which bear the ear in a good position. The selected ears should be at once put in a dry, airy place, where they can dry out naturally. Artificial drying should not be resorted to. When the ears are still sappy the application of artificial heat may easily do harm by inducing fermentation, a very little of which will injure the germs and cause weakness. There are many ways in which corn may be safely put up for drying. A good rack may be made of pieces of five or six-inch fence lumber set on end and common plastering laths nailed across the edges on either side opposite each other, spaced six inches apart to a convenient height. A single row of ears should be placed in each space at first, to permit of more rapid drying. Tying two ears together by the husks and hanging them over wires stretched a foot or more apart across a dry room is an excellent system for drying. Whatever the scheme used for drying, the important thing to keep in mind is that each ear must have a free circulation of air all around it. Putting the ears in bags or piling together in any way must be avoided. Seed corn should never be put into a building containing reach maturity an additional control is placed over the remaining pests. live stock of any kind because of the moisture given off by the animals.—A. T. Wianako, Agriculturist Purdue

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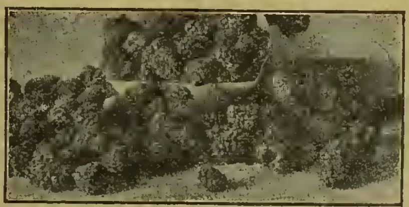

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CLEAN UP.

Here in California where we boast of so many beautiful things, and so many advantages, we are not careful enough about keeping our places clean. This is truer of the average farmer than we wish it were. The clean, well-kept ranch is the attractive one. Houses and out buildings painted, fences whitewashed, gates in order, no rubbish scattered around, these are evidences of thrift on the part of the owner, and if he wants to sell his place, add hundreds of dollars to its price.

We know a poultryman who isn't having the success in disposing of his stock he should have because he keeps such a "pesky dirty ranch." We asked him why he didn't clean up. "Oh, I can't afford to," he replied. Yet he is losing sales right along because people think his stock is dirty, too. They don't want to buy high priced poultry with mites and lice thrown in. They go to some other ranch, which is neat and clean, and purchase their stock. The other man grumbles that he lost the sale. Served him right. On this point the Journal of Agriculture reports an instance. A certain farmer who was also a raiser of fine stock advertised extensively in the journals. His offers were very good and he received a large number of replies from all over the country. But this man was always complaining about his losses. He couldn't get rid of his stock. A man who answered his advertisement and paid him a visit was asked why he made no purchases.

"Oh, the cattle looked fairly well," he replied, "but I have never seen such an untidy, dirty rubbish heap as that man kept his stock in. I wouldn't trust cattle that came from such a place, though they were apparently all right. It is just as easy to buy from those who maintain neat and clean quarters for their animals."

"In due time this remark came to the ears of this raiser, and he was asked why he didn't clean things up about his place 'Oh, that costs money,' he replied. Yet he was losing sales for that very reason, and this is a very good example of the false economy practiced by many farmers. The large merchants of cities spend enormous sums of money in putting elegant marble entrances to their buildings. While the farmer need not be so extravagant, he can keep up to the laws of sanitation at least and whitewash his fence even if it does 'cost money.' He doesn't need elegant stables or fine landscape gardening, but a periodical 'clean up' is a wonderful thing in the way of selling stock and other products."

Now, this is a splendid time to overhaul things on the farm, whitewash the out buildings and fences, gather up the scraps and cart them off the place. If the manure pile hasn't already been hauled out and scattered, and the barn yard made neat and sanitary, it should be done at once. The rains are coming along and the fertilizer will do good in the orchard and do harm in the yard. Turn over a new leaf with 1908, and clean up.

FARM INSURANCE.

We read recently of a serious loss to a farmer in Kern county whose barn was burned, in which was stored several hundred dollars' worth of grain. The loss ran $1200, and there was not a dollar of insurance either on the barn or its contents.

This brings up the subject of farm insurance, on which we want to express an opinion. It is a mistake in any farmer not to insure his house and barns. Not two-thirds of them do it, and they run too big a risk when they don't.

A farmer ought to be just as good a business man as the merchant, and what merchant is there who does not insure his stock against loss or damage by fire? It is true the liability of fire is not so great on farm buildings as on town houses, but the liability is there just the same, and it should be provided against. The rate is not so high as it is in cities and towns, and there is scarcely a farmer, in these days, who can not dig up enough money to pay a few dollars a year on a thousand or two insurance. If he meets a loss, his insurance will enable him to rebuild, and at the same time if he meets no loss, the satisfaction of knowing he has protection is worth a good deal.

Years may elapse and no fire break out, but let a policy once lapse, and somehow, and too often, a fire catches the negligent man and away go the earnings of a lifetime.

In California, sorry to admit the fact, our houses are not erected with the same care as in the east; chimneys are poorly put up and the liability of fire from defective flues is all the time present. Then, too, we are menaced by a horde of tramps which infest the country, sleeping in barns and out buildings, and these characters form an ever-present source of danger to the farmer. Just as farmers use preventive measures to protect their orchard crops, should they use measures to prevent loss by fire. It is the part of sound business policy to do this, and we repeat the farmer ought to be as much of a business man as the business man in town.

BIG PROFIT IN APPLES.

Thirty thousand barrels of apples were shipped from Boston to Europe in one week recently, and the announcement is made that Oregon growers have contracted all they have to sell at figures which will net them handsome returns. The present year has been disastrous to fruit growers, throughout the Middle West, and especially so to the apple growers. Apples have brought as high as $2.50 a box at retail this winter, and these were not the best grades either. This goes to show the value of apples as a crop, and it ought to incite farmers in apple districts to pay more heed to the care of their orchards.

We have fallen into the idea, somehow, that apple orchards do not need the attention other kinds of fruit do, and the result is, that our fruit has deteriorated in quantity and in price. The general shortage this year has had the effect to bring the price up to the high water mark. Some indication of the scarcity and value of apples can be obtained from the fact that Oregon apples recently sold on the New York market for 11 cents a piece. Of course, they were of exceptional size and quality. When apples sell for a greater sum than oranges, some idea of their value may be obtained.

If growers would give the same attention to cultivation and fertilization of apple trees that they give to orange and lemon trees, we would have a great deal better fruit and more of it. If apples will sell for 11 cents apiece, they are surely a bumper crop to raise. Of course, this is an exceptional year, but apples are standard fruit the world over and with our own population increasing so rapidly the demand promises to be in excess of the supply indefinitely.

The point we wish to make is this, the price at which apples sell will justify the raising of more of them and a better quality. This can be done by giving the same attention to them which is given to other crops. Discussing this subject with Mr. Thomas of Hawaii, recently, he gave it as his opinion that apple culture, in apple districts, will make the growers independently wealthy if the proper care is given the trees. In apple sections, now is the time to look after the orchard, for attention so given will go far to determine next year's crop.

FARMERS' INSTITUTES.

Farmers' Institutes not announced before for Southern California are: Buena Park, Jan. 9; Downey, Jan. 10; Montebello, Jan. 11. The ones at Buena Park and at Downey will be largely devoted to dairying.

The excellence of the work of the Department of Agriculture is being more and more appreciated, particularly in California, and those of our people who are interested in the productions of the State are realizing more and more fully its importance. The Bureau of Soils has been actively engaged in its particular line of work on the Pacific Coast, and the facts discovered and suggestions based thereon have been of very great value to all producers. Commercial and agricultural organizations are alive to the bearing of these investigations on the prosperity of California, and are on the watch for new directions in which the energy of the Bureau of Soils may be directed.

The Chamber of Commerce of San Francisco is making an effort to secure for the merchants of that city a part at least of the supplies for the Panama Canal work. Senator Perkins placed the matter before the Canal Commission and has requested that San Francisco dealers be recognized.

Shop Talk

To the readers of the **CULTIVATOR** who are interested in hogs, we have a word this week.

On page 18 you will see advertised the book **500 HOG QUESTIONS,** by L. H. Cooch.

We have arranged for quite a number of these books, and are going to make presents of them to those interested.

The only necessary stipulation is that in sending in your request, you enclose at the same time your subscription to the **CULTIVATOR** for the coming year.

This payment must be made direct to this office and should be sent in soon, as the books may be exhausted or the offer withdrawn. Remember, it can go only to those paying in advance, so if you are behind on subscription it will be necessary to pay up to date, and also the coming year. When one considers that answers to 500 different questions from all sources and of all kinds about hogs, are in this book, it is sure to be of great value to any hog raiser.

Send in your order for 1908, either a new name or a renewal, and tell us to send the book.

Agricultural Notes of the Pacific Coast

Northern California

Willows market was well supplied with blackberries for the Christmas trade.

The new dairy barn at the State University is under way. It will cost $20,000.

One firm will plant a vineyard of 320 acres near Arbuckle, Colusa county.

The cannery at Lincoln was destroyed by fire the day before Christmas.

Hop growers at Ukiah are signing by-laws of the new co-operative organization.

California leads all the States in the Union in the extent of forest reservation.

Yolo county is becoming a center of finely-bred horses, also of the dairying industry.

Coyotes are making life miserable for the poultrymen at Two Rock, near Petaluma.

Property owners at Wyandotte are protesting against the charge of $20 per acre for irrigating water.

State Engineer Ellery will travel over many of the levees of the Sacramento Valley on a tour of inspection.

One tract of 1200 acres is now being planted to sugar beets by the Alvarado Sugar Company in Yolo county.

Turkey raisers at Redding were paid 20 cents per live pound for large output of that stock for the Christmas trade.

Butter from Humboldt county has shrunk materially in the amount of shipments to the San Francisco market recently.

A rancher near Gridley is getting rid of rats by the use of ferrets. He succeeded in destroying 300 rats with three ferrets in one day.

An olive grower at Gridley has Sevillano olives, one of which measures four and three-quarters inches in circumference the longest way.

The rainfall in the Sacramento Valley is less than half as much as that of last year this date, but the condition is not so discouraging as before the last rain.

The City Trustees of Chico have decided to erect a large number of hitching racks for the accommodation of the increasing number of farm teams visiting the town.

The Santa Rosa Lighting Company has been sued to prevent it from discharging poisonous chemicals into Santa Rosa creek, by which it is said that many fish have been killed.

The directors of the Manchester Creamery Company in Mendocino county have decided to dispose of the company's plant and business at public sale Saturday of this week.

The resolution passed at the recent State Fruit Growers' Convention at Marysville favoring the repeal of the Chinese Exclusion Act has caused much comment among the newspapers of the State.

At a recent meeting of Woodland Creamery Association the following directors were elected: H. E. Coll, E. S. Farnham, Daniel Farnham, George Hoppin, J. L. Harlan, S. Lawson and A. W. Morris.

Central California

Many olives will be planted near Exeter this year.

A well-known seed man is to plant 80 acres of tomatoes near Turlock.

The raisin market is still somewhat unsettled by slow deliveries.

About two-thirds of Fresno and Tulare country oranges have been forwarded.

Dried fruit men, the State over, are anticipating a early decision at Washington on the sulphur question.

Dr. Arthur Paul, the government livestock inspector, is investigating the Texas fever tick in the upper San Joaquin valley.

State Forester Lull has been instrumental in securing a large number of convictions of setting fire to brush and pasture lands.

The fake rain making proposition in San Joaquin valley seems to be getting credit for all the rain which we have received this year.

A Fresno county paper puts the pertinent query as to why it is that live pork is 5 cents per pound good bacon commands from 16 to 25 cents.

The Sacramento Union says that the establishment of a fire patrol to reach from Tehachepi to Shasta would be worth a hundred times its cost to the State.

At a report on peach blight spraying made to the Dinuba Grange by committee, showed the results of experiments to favor a November and February spraying.

The Board of Trade of Tulare has inauguarated a good roads movement and hopes to benefit the roads from that place to Dinuba, Visalia, Porterville and other points.

The Kings-Fresno county division fight, which was supposed to have been settled by one election is to be conducted all over again because of alleged irregularity in the first election.

Owing to the non-appointment of the Board of Sheep Commissioners, the law recently enacted regarding collection of taxes on sheep has been declared by the Controller to be inoperative.

Beet growers at San Juan have held a meeting and passed resolutions asking for better prices for sugar beets, claiming that it will be impossible to raise them for prices given by the Sprecklеs people in the past.

An effort was made at the recent Counties' Committee great meeting at Fresno to start a movement to egt together all fruit growers in one great co-operative movement. If such a movement could be placed on its feet and honestly managed it would make a lot of good money for the producers of this State.

Dinuba Grange has elected officers as follows: Master, Mrs, S. Ramm; Overseer, A. E. Van Fleet; Lecturer, Mrs. Emma Nichols; Chaplain, J. N. Patterson; Steward, W. A. Bates; Asst. Steward, Warren Fraser; Treasurer, J. C. Naylon; Secretary, F. S. Clifton; Financial Sec., J. W. Fraser; Gate Keeper, S. Cedarberg; Ceres, Mrs. Mollie Perry; Pomona, Miss Allie Jones; Flora, Miss Mabel Dewhurst; Lady Asst. Steward, Miss Lizzie Patterson.

Southern California

Corona is to have a new creamery.

Redlands is contemplating a $12,000 storm drain.

Temescal is shipping large quantities of olives for pickling.

Up to Christmas Riverside shipped 154 cars of oranges; 48 of lemons.

Stockmen of Imperial county have organized for mutual protection.

The Glendora Farmers' Club held its first meeting of the season last week.

Large plantings of eucalyptus will be made at Beaumont during the coming season.

A movement is on foot to build a trolley line into Strawberry valley near San Jacinto.

Young grape vines on the Corwin ranch near El Centro, are said to produce three crops a year.

Owners of the lands in District No. 8, Imperial valley, are still waiting for water promised long since.

Riverside and San Bernardino counties are contemplating a road to be built to Riverside and Ontario.

The orange crop at Hemet this season is estimated to be about 80 cars or nearly 20 more than last year.

Ollie J. Watkins, the Rialto land swindler, was killed in a runaway accident at San Bernardino last week.

A walnut planter at Whittier has walnuts from a tree which are thought to be practically blight proof.

The town of Santa Paula shipped nearly 12,000,000 pounds of lemons last year valued at about a half a million dollars.

The Hemet reservoir closes the season with 110 feet of water, which will run for three seasons without further rainfall.

The work on the big dam of the Ventura Water & Power Company at Casitas has been discontinued until the dry season.

A large number of birds killed in fumigating orange trees has caused a protest on the part of officers of the Audubon Society.

A farmer near Westminister has a ten-inch well 681 feet deep which is said to be a wonder in the amount of water produced.

A large number of bees are being introduced into the Imperial valley under the expectation of the alfalfa lands giving good pasture.

Ranchers in many sections of Southern California propose to stop the unlawful waste of artesian water by having the law enforced.

The flow of water in the Colorado river at Yuma the middle of the month was 7700 second feet. This is much below that of last year same date.

The Pomona Fruit Growers' Exchange is building a new packing house near the junction of the main line and Chino branch. It will be supplied with a pre-cooling plant.

Great quantities of beans are stored in Ventura county, because of the market conditions brought about by the financial stringency. All growers are insisting on having close up to the five-cent notch.

The Coast

Seattle butter commands 36 cents per pound.

A new cannery is nearly completed at Granger, Washington.

Six hundred boxes of Hood River apples are now on the way to Siberia.

An orchard at Myrtle Point is giving its second crop of apples this season.

A Colorado beet grower is experimenting in raising a disease-resistant next season.

Spokesman Review says that it takes more brains to farm 10 acres than it does 50.

Many Colorado alfalfa growers are contemplating raising more alfalfa seed next season.

A campaign is to open to secure a distillery for denatured alcohol near Pullman, Washington.

Another large warehouse is to be built at Lewiston, Idaho, which will be over 500 feet long.

The effort to move wheat in bulk from Tacoma has been opposed by the shippers and exporters.

Twisp, Washington, is sending sample boxes of its fine apples to Secretary Garfield at Washington.

Five hundred cars of deciduous fruit were shipped from the little station of Freewater, Oregon.

Hops are leaving the growers' hands rapidly in the Northwest, but the price remains discouragingly low.

One artesian well has been struck near North Yakima, Washington, which is claimed will irrigate 160 acres of land.

After two weeks of scouring the country at Kiona, Washington, the "cayuses" were all rounded up and sent to market.

The seventh annual session of Inland Registered Breeders' Live Stock Association was held last week in Moscow, Idaho.

Palouse county, Washington, says that its last crop of wheat was the largest ever in its history and that it is practically all sold.

Complaints were made in some of the Northwestern stock sections regarding there being no more "free range" on government land.

Owing to the loss of fruit caused by shortage of cars, a Walla Walla, Washington, fruit company has sued the transportation company for $20,000.

The Northwest Horticulturist says that a better and more attractive label will be used on this coming season's output of apples than in the past.

Freewater, Oregon, has been more or less torn up over suits as to rights of irrigation water, which it is thought will now be settled by compromise.

A farmer at Pullman, Washington, has imported a number of fine breeding Duroc hogs for use on a farm where 500 head of hogs are raised annually.

The cannery at Clarkston, Washington, has just closed a very successful season, and in anticipation of greater output next year will greatly increase its facilities.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

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Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
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Mammoth Bronze Turkeys One and Two Year Old Hens and Early Hatched, Well Matured Toms **For Breeding**

Well Bred, Carefully Selected Cockerels Good Style, Good Size, Pure White Birds **S. C. White Leghorns** Eggs for Hatching, Any Quantity Write your wants.

No trouble to answer inquirers. Satisfaction guaranteed.

Stuhr-Williamson Poultry Company

378 Bandini Ave. Home Phone 149 Riverside, Cal.

Black Langshans Well, we won again at Los Angeles. Two firsts, one second, one third on five birds shown. Best stock ever in show room in California. Eggs, $2.00 to $5.00 per 13, $10.00 to $20.00 per 100.

White Rocks Large and vigorous. Improve your stock with a setting or get a fine flock with an incubator lot. Eggs, $1.50 to $2.50 per 13, $8.00 to $12.00 per 100.

S. C. White Leghorns Order eggs now, we have plenty of them. Have had all winter, great big white ones. Eggs, $1.00 to $2.00 per 13, $6.00 to $10.00 per 100.

Phone East 915 **Foster's Poultry Yards, 128 W. Avenue 41, Los Angeles**

Orange Lands One to Ten Acres **Chicken Ranches**

Government Land

We will locate you on 160 or 320 acres of fine lands, will raise anything, or sell 120 acres land, good well, two houses, water at ten feet, Price, $12.50 per acre, one half cash.

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This is not a medicine but a high grade nitrogenous food. Write for free booklet "How to make Hens Lay." Our Poultry Foods are sold by all local dealers and manufactured solely by

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Write for our free booklet, "Farmer's Friend." Valuable to all farmers and ranchers.

Excelsior Egg Food

The food to feed when you want eggs. None other just as good.

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Will raise more chicks than any other food on the market. To try it means you will use no ohter. If your dealer can't supply you, write us.

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Chamberlain's Perfect Chick Feed

World's Chick Feed of To-Day. The only original **Dry Chick Feed.** All others are worthless imitations. **Chamberlain's Perfect Chick Feed** was used exclusively at the great St. Louis World's Fair during the 7 months. This is the highest compliment paid to any manufacturer of poultry food in the world. Perfect Chick Feed also endorsed by the U. S. Experimental Station and the Columbia School of Poultry Culture. All the leading poultry men of the country use Chamberlain's Perfect Chick Feed on its merits.

NOTHING JUST AS GOOD.

GERMAIN SEED CO.,

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SPECIAL PRICES ON TON LOTS.

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

WINTER EGGS.

ALL of us have a desire to get eggs where the prices are best. Yet this desire only comes when we find that our eggs are not coming as fast as they should.

If we would get eggs in winter we should prepare before the rains and cold days set in. Even here in California it is necessary to make some provisions for the comfort of our hens. It will be necessary for them to be confined in the houses more during the rainy season than in the summer. They should have dry, comfortable quarters.

An Advantage.

There are reasons why we in California should be able to get better results from our poultry in winter than in the Middle and Northern States, for here it is not so cold, for one thing. Another important item is the feed; we have green food all winter, which certainly gives us an advantage over our Eastern competitors. Green food should form one of the important factors in our ration.

It is very necessary for us to know what constitutes a well-balanced ration so as to constantly supply the waste that is caused by the formation of eggs. We will gladly furnish to our readers a recipt for a balanced egg food if they will write us just what grains can be had in their locality. Unless we know this it is hard for us to give a balanced egg ration that will prove satisfactory to all.

Best Breed for Winter Eggs.

As to the breed we are to select to furnish us our winter eggs, leaving out a few that are bred strictly for fancy, there is no best breed, as most any of the popular breeds of today will give a goodly supply of eggs at a profit, if properly cared for.

Scratching Shed a Necessity.

We think it is necessary for best results to have a scratching shed as it will provide exercise for our birds; keep them contented working for food. If they have no such place they huddle together in the corners of the house. We have seen flocks of birds stand around apparentlly out of condition simply because they had been fed all that they could eat of a mash or whole grain. If they had been fed a small feed in the morning, then given a mixed grain in a litter, making them work for it, it would have been more profitable for their owner, and the flock would have been more content.

A Good Ration.

As we said before, it is hard for us to give a good balanced ration that will suit all, yet we quote from the Successful Poultry Journal a ration that will be found a good one:

Oats in the litter in the morning, mash at noon composed of equal parts oats and corn (ground,) bran and wheat middlings, to which is added beef scraps in the proportion of 15 pounds of the scrap to 100 pounds of the mash. Feed what the fowls will eat up readily. At night give a whole feed of corn or wheat in litter, alternating, one night corn, the next wheat. Green cut bone may be substituted for the beef scraps, but should be fresh cut and not to exceed one ounce per fowl per day should be fed of it. Oyster shell, grit and water must be regularly and continually supplied.

The mash may be fed dry from self-feeding hoppers if found desirable and the fowls given free access to it at all times, or it may be kept from them a portion of each day as appears to give the best results.

As will be seen the above ration is composed largely of the three staple grains and anyone should be able to procure it in nearly any locality. Fed judiciously it will give very satisfactory results regardless of weather conditions, although it is not strictlly a scientifically balanced ration.

* * *

We reprint from one of Dr. Cary's bulletins, what we consider every poultryman should have, and would suggest that this issue of the Cultivator be filed away or the following clipped for future use:

For Intestinal Worms.

1. Isolate infested birds and destroy or disinfect their droppings while being treated.
2. Put 1 to 2 drams of copper sulphate in each gallon of drinking water for one week; or
3. Powdered pomegranate root bark (for tapeworm,) followed by 2 or 3 tablespoons of castor oil; or
4. Oil of turpentine, 1 to 2 tablespoonfuls, followed in four to six hours with castor oil.
5. Powdered santonin in 5 to 8-grain doses is especially good for intestinal worms.
6. Chopped-up pumpkin seeds for tapeworms.

For Worms in Air Passages.

1. Turpentine introduced by stripped feather into the windpipe.
2. Steaming with creolin and turpentine in the hot water.
3. Feeding garlic in the food.

For Diarrhea.

1. Subnitrate of bismuth, 1 to 4 grains, two to three times per day; or
2. Pulverized cinchona bark, 1 to 2 grains three times per day, and
3. Quinine one-eight to one-half grain two times per day.
4. Dry feed or cooked and slightly moist feed.

Constipation.

1. Epsom salts, 20 to 30 grains in a tablespoonful of water; or
2. Castor oil, 1 to 2 tablespoonfuls; or

LILLY'S BEST
HOLLY
CHICK
FEED

A nourishing, wholesome and complete food for young chicks. A mixture of eleven different grains proportioned to supply the food needs of growing chicks and to fully nourish them.
These letters verify our claims.

"I have about 600 chicks and find the Holly Chick Feed superior to any chick feed on the market." O. A. AHRENS, Gilroy, Cal.

"We used your Holly Chick Feed and like it quite well." A. H. CANTRELL, Meadowdale, Wash.

"Holly Chick Feed is all right and if my chicks do not grow I will look elsewhere for the reason."
D. O. BRUNNER, Spokane, Wash,

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EGGS—PRIZE WINNING OR BREEDING STOCK

One bird or Fifty—One setting or 1000 eggs that hatch, at prices in proportion to quality. Orders booked now for delivery.

We want you to see our place and birds, and will give you a reduction on purchases if you will call in person, but if you can't come send for our catalog. Worth money, but free. 1 blk. north, 2 east of P. O. P. O. box 125. Altadena, Cal.

Do You want the Breed That Lays

the year around and brings $1.00 each when sold to market? Our **BUFF ORPINGTONS** are that kind. Write for show record never equalled on the Pacific Coast, Catalogue, and prices.

Mr. and Mrs. W. S. Sullivan
Agnew, Santa Clara Co., Cal.
State V. P. Nat. S. C. B. O. Club.

Newbert's White Leghorns

Are the best in the State. I proved it at the last State Fair, winning four of the five firsts from the best breeders in the State. Hatching Eggs, $6 per hundred, $1.50 and $2.00 per setting.

F. M. Newbert - **Palmetto Heights Sacramento, Cal**

WINSLOW'S REDS
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Three First Prizes San Jose, '07

Free catalogue of heavy layers and finer list of eggs for hatching on application.

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White Leghorns

Eggs $1.50 per 15, $7.00 per 100. **I. R. Duck Eggs,** $1.00 per 13, $5.00 per 100.

H. G. Spargur, Soquel, Cal.

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Poultry Show Dates

Los Angeles, at Chutes Park, Jan. 6-12, 1908.—Second Annual Exhibition Breeders' Association of Southern California. Dr. Winslow, president; H. A. Meserve, secretary. Birds will be received January 1st. Judged by score card and awards read before public is admitted Monday, January 6th.

Pomona, Cal., Jan. 6 to 11, 1908.—First annual show of Pomona Poultry Association. Write C. C. McKey, 372 W. 2nd St., for remium list.

3. Calomel, 1 to 2 grains, and
4. Soft feed.

For Lice.

1. Lard or vaseline over head, under wings and around anus.
2. Dipping in 15-per cent kerosene oil emulsion; or
3. Dissolving in 2 to 5-per cent creolin solution.
4. Pyrethrum powder dusted among the feathers.
5. Clean nests, yards and houses.

For Intestinal Disinfectant.

1. One-half to 2 drams of copper sulphate in 1 gallon of drinking water; or
2. One-half to 2 drams of iron sulphate in 1 gallon of drinking water; or
3. Salol, one-half to 1 grain, once or twice daily.
4. Naphthol, one-half to 1 grain, once per day after eating.
5. Resolein, one-fourth to one-half grain, once per day after eating.
6. Hyposulphite of soda, 4 to 10 grains in 1 tablespoonful of water.

For Chicken Mites.

1. Lard or vaseline on legs, feet and head applied once or twice per week. Wash off scabs.
2. Kerosene emusion sprayed on walls, roosts, floors and nests once per week for what is commonly called chicken mites or chicken ticks
3. Two to 5-per cent creolin solution sprayed on same places as 2.
4. Formalin, 1 part to 200 parts of water, sprayed as 2.
5. Corrosive sublimate (very poisonous), 1 part to 1000 parts of water, sprayed as 2.
6. Boiling hot water freely applied by pouring over walls, roosts, nests and floor.
7. Clean chicken house every day until mites are gone.

* * *

Rheumatism.

I have two young Plymouth Rock roosters about six months old which are troubled with something like rheumatism. The cords in the feet seem to be drawn till they can only stand on their toes, the center of foot cannot rest on the ground at all. When eating they sit on the knee, and are poor frame, not being able to scratch for food. They do not roost on a perch at all, but sit on a box.—Mrs. R. H., Grimer, Colusa county.

Your birds have rheumatism, which is usually caused by exposure and cold, damp quarters. Find the cause and remove it. See that your house is thoroughly dry and free from draughts. We don't mean by this

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Kills mites and lice and bugs of all kinds on fowls and plants and about the house. The best insect powder made. In sifting-cans, 10c, 25c and 50c. If your dealer hasn't it, we well send 50c can, or 6 lbs. for $1.00, expressage prepaid.

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Pure, Clean Animal Matter Poultry Foods

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White Rocks and
Indian Runner Ducks

Orpington and Rocks $2 per setting; $6 per 100. Duck Eggs $1.50 per 12.
Write your wants. Correspondence carefully answered.

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All orders shipped same day received

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Los Angeles St., bet. 1st and 2nd
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Starbuck's Barred Plymouth Rocks

We trap nest our hens. Why. set from poor layers? Bird laying qualities are inherited the same as any other. This year we have discarded all old matings and have gone to the next generation. Cocks have 9 generations of 200 egg mothers. Hens all from 200 egg mothers and from cock with 6 generations of 200 egg mothers, and are laying fine. We have divided into pens according to the way they are showing up in four months laying. $2.00 for 13 eggs from first pen. $1.00 from 2nd. until they have time to make longer records. (Except from one best, $20 for 13.) No Sunday sales or visitors.

Wm. Starbuck & Son. Fullerton

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Fine, new stock, Northern grown seeds. None better. Low prices for best quality. Send 35c in stamps for trial order of 12 of our 5c packages, your choice, postage paid.

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large stock of the very best goods of all kinds at the lowest prices. Come and see us, or mail your orders; you will be treated right.

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are as good as can be made. Also PACIFIC COMBINATION BROODER. And they are priced right, too. We also make the "BUSINESS" Incubators and Brooders. Just for business and they do it everytime. Hot water heating. Very low prices.

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Investigation is what I want. Send today for the big free 124-page book.

Right in your own home, and if the Incubator is not all we claim for it, and exactly as represented, send it back. The cost to you won't be a cent. My free trial offer is fully explained in the 124-page catalogue; it's free, send for it today. Contains useful poultry information, lectures, etc., and it's Free. If you intend to buy an Incubator or brooder, my prices are lower than any others on this coast—no exceptions. Right now I have a few 1907 models "Old Trusty" Incubators on hand, as long as they last—they go at lower prices than you ever heard of. Send for description of these machines, and free trial proposition—we can offer you better goods for less money than any dealers on this coast. Our price list and catalogue proves it.

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No Hair **$300 per Sack** No Hoofs

Geo. H. Croley - Petaluma, Cal.

Croley's Green Bone, $2.50 per Sack

MISSION VIEW POULTRY RANCH

At the Los Angeles County Poultry Association Show, Dec. 7-14, 1907; White Wyandottes, 1, 2, 4. 5 cks; 1, 2, 3, 4 ckl; 1, 2, 3, 4, 5, hen; 1, 3, 4, 5, pul; 1, 2, 3, 4, 5 Pen; MAMMOTH BRONZE TURKEY—1 adult, 1, 2, 3 yearling; 1, 2 young tom; 1, 2, 3, 4, 5 hen; and 2 on ten pullet pen; 1, 2, 3 pullet.

Out of thirteen possible specials I won ten as follows: The Times cup for best display of White Wyandottes, the Los Angeles Produce Exchange $50.00 silver cup for best display of table fowl, the Henry Albers loving cup for best pen of White Wyandottes, Harper & Reynolds Company's handsome carving set for best display of White Wyandottes, the Superintendent's cup for best display of any one exhibitor of any one breed, a California Incubator for best display of turkeys, the Association cup for best White Wyandottes, the National White Wyandotte Club cup for best Wyandottes, all the National Wyandotte Club ribbons for best cock, cockerel, hen and pullet; and in the competition open to ladies only; cut glass vase for hen and ten chicks in a large breed; and cut glass salt and pepper shakers for best bantam hen and five chicks.

I had the largest exhibit of White Wyandottes ever made on the Pacific Coast by any one exhibitor. I raise all my birds and keep forty breeding pens and all my hens are trap-nested.

MRS. C. D. HUBBARD, San Fernando.

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White Wyandottes (Hubbard Stock)

Hens, Pullets, Cocks, and Cockerels for sale. Prices reasonable

Cannon Poultry Co. 2851 Morgan Ave. Los Angeles, California

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that a house should not be ventilated, as ventilation is necessary, but it can be done without causing draughts.

Treatment: Give a dose of epsom salts, about 20 grains, followed with about 30 to 40 grains of baking soda to a quart of drinking water, and give 2 to 3 grains of salicylic acid twice a day. Feed plenty of green food.

If fowls have been afficted long enough for the disease to become chronic, it is better to kill them than to try to cure them. We would rather try to find and remove the cause, than to try to cure the disease after it has once become established.

* * *

HARD EGGS,

Occasionally I kill a hen containing eggs—small ones—as hard as stones. Can you tell me the cause and the remedy?—R., Claremont.

The best answer to this we can give as a possible cause, is to quote the following from Farm Poultry:

"A Strange Case" has interested me greatly, as I have had some experience in that same trouble among my poultry, but I had settled the question for myself, believing I had found the cause of the hardened yolks.

In 1896 I came into possession of forty-two hens, which after a time I dressed for market, cleaning them for the cook. All but one were in perfect condition; that one having the entire bunch of eggs very hard, and all enclosed in a sort of sack. I have never seen anything like it since, but have had many cases of hardened yolks, and yolks loose among the intestines.

For a few years I kept a few hens and found no hard yolks when the poultry was dressed for my customers. I increased my flock to such an extent that I was obliged to have help to care for it. In 1903 I took a thirteen year old boy to help. He did pretty well, but things began to get stirred up, and the hens were not as quiet as formerly. I do not remember the internal state of the poultry dressed while he was with me, because I had not at that time associated a boy and hard yolks together. Two years later I had an eighteen year old boy; he was quick motioned, and in a hurry to get through the poultry work to get at the farm work. The hens became nervous, and ran away rather than towards us, and did not lay very well, and I began to find hard yolks in dressing the poultry. My latest and last (I hope) helper was a fourteen year old boy, good in many ways. The hens irresponsible in some ways. The hens under his influence became so wild that when any one of the family walked by the hen runs the poultry would run and fly to the opposite side of the yard, often beating against the wire in their haste to get away from whoever was near. This boy in feeding the hens would sometimes get a lot of them together eating what he had put down for them, then he would throw the feed pail in their midst just to see them fly and flutter.

It was while he was with me that I came to the conclusion that these sudden frights and starts caused the trouble with the egg cluster, for the hen without hard yolks was the exception whenever I dressed any of those fowls. I talked to the boy and explained to him the effect of roughness and too much haste in moving about among the poultry, and I showed him the hardened yolks. I had one pen of nine Indian Games that became so wild they would break a window glass in trying to get out of the hen house when I entered it, and they stopped laying. I decided to kill them. After I had dressed them the boy asked if I had found any hard eggs in them. I told him I had. I believe he had done something, perhaps many times, which spoiled these hens as layers. Certainly I did not have hard yolks until after the hens had been well stirred up and scared. I do not blame the boys for all the trouble, for I more than suspect that I caused a share of it, at least in a pen of Plymouth Rocks. Sometimes a customer would come and insist on having a hen or two immediately. I could not induce such ones to wait until night and then come when I could quietly pick the hens off the roosts. Rather than lose the trade I would get a wire and catch them by the leg as they went past me. The hens very soon found out what I was doing, and kept away from me. Then I slowly followed them about and worked until I caught what I wanted. It scared them, however, and they rushed with more or less haste into the corners. In less than a week the hens stopped laying. I did not dress any of that pen at that time, but sold them alive, so I did not know the state of the egg cluster.

I have sent the boy away, and have sold every hen and chicken I had on the place, and next spring intend to begin all over again, keeping only as many fowls as I can care for myself. I will not catch any for a clamorous customer, and if then I find hard or dead yolks I shall believe I have not found the reason thereof.

Grangers at Albany, Oregon, are agitating for the enactment by an initiative petition of a Constitutional Amendment providing for a two-cent rate on railroads in Oregon.

This is the time of the year to use the Success Automatic Nests, to designate the prolific layers. The Success (no lamp,) Incubator Co., of White Salmon, Wash., are the manufacturers.

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Cut Out, Sign and Mail This, and by return mail you will receive our great Free Book, telling How 140,000 Men and Women are Making Money with the Famous Sure Hatch. Book is full of valuable help to beginners and professional poultry raisers. Tells why the Sure Hatch excels all other incubators. We ship Sure Hatches on Unlimited Trial direct to you from Los Angeles or Salt Lake City. Don't delay—fill out and mail coupon NOW.

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By the Bihn-Schofield Method of Incubation

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Are well hatched — are hatched as the hen hatches. Four years ago we could handle 3,500 eggs at one time, but with a present capacity of 100,000 eggs we can not fill our orders during the Spring months. Our chicks are always strong and no weak or defective chick is even sent out knowingly. The Petaluma plant sells White Leghorns only.

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White Leghorns Buff Orpingtons Black Minorcas Partridge Wyandottes

Fresno Poultry Show, 1907, with 20 birds on display we took 14 prizes, four firsts. Young stock for sale. Eggs in season.

SCOTIA POULTRY FARM, Fowler, Cal.
Smith & Darling, Proprietors

Bees and Their Care

TREATMENT OF FOUL BROOD.

THERE are three methods of dealing with foul brood and are given by the Journal of Agriculture of Victoria, Australia, as follows:

1. Destruction.
2. Elimination of the disease.
3. Chemical treatment.

1. The destruction of bees, combs, hive and fittings is, of course, an effective method and where only one or two hives are affected and the disease is of a maligant type, it is, perhaps, the quickest and best method to adopt. It is, however, wasteful, as the bees, wax, hive and frames destroyed have a value of from 10s. to 30s., and the utter destruction of the diseased colonies is no guarantee against the appearance of the disease in other and new hives even though all hives, healthy as well as diseased, are destroyed. Destruction, usually brought about by burning the hive, bees and all, after all the bees have returned for the night, is, therefore, not to be commended, except for an odd case of a virulent nature.

2. The elimination of the disease is effected by removing the bees from the infected hive and combs. Put them in a temporary hive placed on the spot occupied by the old one previously, and leave them without food for 24 to 48 hours, but with the exception of the queen allow them liberty. The queen may be caged to prevent the bees swarming out and absconding, or, as they will sometimes do when deprived of brood, entering a neighboring hive. The cage employed for this purpose should have an opening, covered with a piece of queen-excluding zinc such as is used in honey boards which will prevent the queen leaving the cage, but will allow the workers access to it. Otherwise the bees are to all intents and purposes queenless and may leave the hive. After the lapse of 24 hours they may be fed with syrup made by dissolving sugar in an equal weight of boiling hot water, the syrup to be given warm (about blood heat) and if there is a scarcity of nectar, not till after sunset, so as to avoid attracting robber bees from other hives. If a honey flow is on, feeding may be dispensed with. In three to four days the bees will have built some pieces of comb on the bars of wood which, instead of frames, have been placed in the hive and from which the cage containing the queen is suspended. The bees may now be returned to their former hive which in the meantime has been thoroughly cleaned by being immersed for several minutes in boiling water in which soap and soda have been dissolved, and allowed to dry in the open air. If the same frames are to be used again they should, after the combs have been cut out and boiled down for wax, be treated in the same way. When properly dry the frames are supplied with starters or full sheets of foundation. The temporary hive is moved aside, the cleaned hive with the frames put in its place, and the bees transferred to it by shaking them out on to a cloth placed in front. The queen may be kept caged with advantage for a day or two more till the bees have again settled down and commenced to build comb. If any comb has been attached to the cage it will be best to transfer the queen to a fresh cage. The comb built by the bees during their stay in the temporary hive is treated as infected and boiled down.

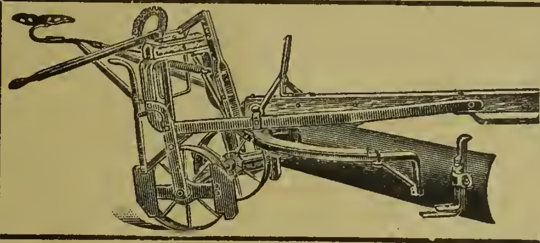
If the bees cannot obtain a liberal supply of nectar from flowers immediately after this treatment feeding should be continued for a while, because although they may not be actually starving it is necessary that they should raise the greatest possible amount of brood immediately after being established in the clean hive, otherwise the small number of bees emerging from the new combs after twenty-one days will not be sufficient to replace the old bees when rapidly disappearing from old age.

It is not absolutely necessary that the bees should build their own combs. Instead of frames with foundation, finished combs, stored with honey and pollen, may be given from clean hives which have a surplus and as soon as there is brood in these a comb of sealed brood from another hive may also be given them. This will dispense with feeding and prevent the colony declining too much during the first three weeks after treatment.

DO NOT LET BEES GET HUNGRY.

It pays to feed bees at any time of the year when they are short of stores. One reason is that it stimulates brood rearing and at times is the only thing that will prevent the brood from dying. It frequently occurs during a short honey flow that the brood dies from starvation when the owner thinks the bees are suffering from some disease. In such cases the only treatment needed is feed. Another reason for feeding is it puts new life in the old bees. Bees, like men, sometimes become discouraged and give up the fight, but it is astonishing how a little feeding will put new life and energy in the entire colony. The old bees hustle out and hunt nectar, the queen begins to lay, and everything becomes lively and active, while before feeding all were listless and seemingly indifferent to the fate that awaited them.

Where an apiary is run largely for comb honey there will doubtless be more or less unfinished sections of honey, and to leave them in this condition over the year is not desirable. Some recommend feeding back extracted honey after the honey season is over and thus have them completed. Principle objection to this is that it has a tendency to produce robbing, especially in a large apiary, so much as to endanger the loss of colonies. A more desirable plan is to uncap the unfinished sections and extract them, placing them back in the hives, and have the bees to clean them up thoroughly. In this condition they can be carried over in good shape and be ready for use the next season. Bees will more readily accept and occupy them, and an early crop of honey will be the result.—Emerson Taylor Abbott, in Modern Farmer and Busy Bee.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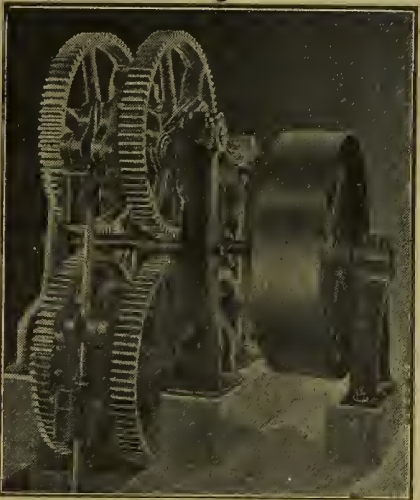
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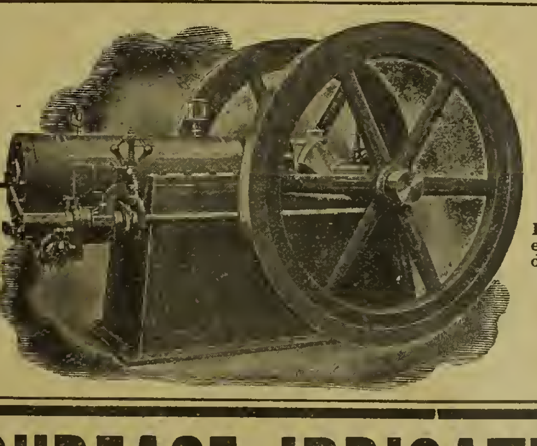
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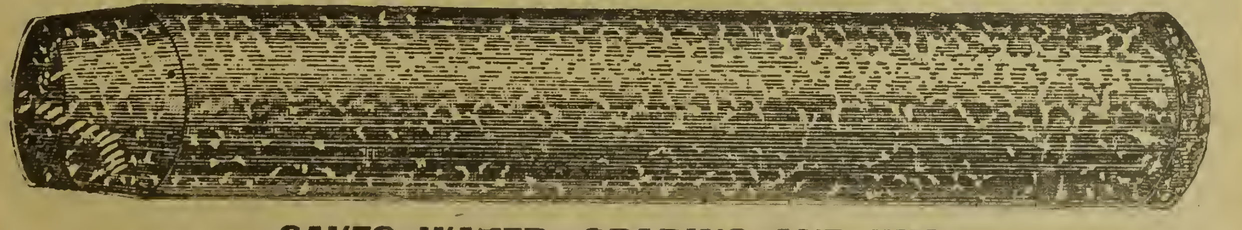
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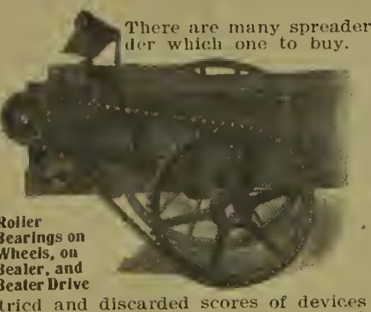

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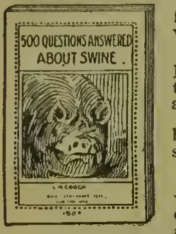
Spreader. It has always been the leading spreader. It was the gold medal machine at Norfolk. It controls patents on the best adapted appliances. It has tried and discarded scores of devices that proved not to be the best. It runs at least a horse lighter than any other spreader.

The Only Completely Roller-Bearing Spreader

It is practically unbreakable. No other spreader is so simple, so direct and positive in its workings, or so easily controlled. We are building for the whole country, and we build it to last—with right care—a farmer's lifetime.

Isn't that your kind of a spreader? Write for catalog and get the proof.

Kemp & Burpee Mfg. Co. Syracuse, N. Y.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Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Sweet Potatoes.

I would like some general information regarding truck gardening. I have light, sandy soil, with lots of frost at this time of the year. Please give information regarding sweet potatoes, especially the bedding of the potatoes for plants. Would you recommend planting the slips or let them vine and plant the vine? Should they be planted on ridges or on level ground or in furrows; about how many potatoes should be bedded for each acre to be planted?—Chris. C. Walker, Riverside.

Light, sandy soil is generally good for melons, cucumbers and sweet potatoes. If it is made very rich, it makes ideal soil for onions.

For growing sweet potato plants, select some well sheltered spot that will get the sun most of the day. Often such a spot can be found on the south side of some building. Spade up the soil 8 or 10 inches deep, making it as fine and mellow as possible and rake it level. About the first of April select medium sized sweet potatoes and place them upon this bed of soil quite close together, allowing about half an inch space between the tubers. If some of the tubers are quite large cut them in two lengthwise and lay them with the flat side down. If the bed has been made along side a building do not make it more than four feet wide, as it will be hard to reach the young sets later on. I have overcome this objection by setting up two boards parallel with the building, allowing the board next the building to be 18 inches or 2 feet away so that one can get between it and the building. These boards need be only about 8 inches wide and no matter if the bed is 8 or 10 feet wide, you can lay a heavy board across the bed upon which to stand when getting your sets. After your tubers have all been placed, cover them with clean, fine sand to the depth of about 1½ to 2 inches and give them a thorough watering with the sprinkler. Do not water too freely after this first time, until the sets begin to show up through the sand, but on the other hand examine the soil every day to see that it does not dry out. After the sets begin to grow the bed can be watered more freely. Some growers plant the sets out in the field as soon as they are large enough, while others go over the bed from time to time and break off the sets from the potato, allowing the potato to remain in the bed, and transplant the sets very close together in rows. They are set a couple of inches apart in the row and the rows can be any width from 12 inches up. If the soil is very sandy and they are freely watered and kept well watered, they will throw out a mass of fibrous roots that makes it an easy matter to transplant them into permanent quarters. I think it pays well to pursue this latter method.

They are always set on ridges which can be about 2½ to 3 feet apart. These ridges can be made quickly by putting a large single shovel on a one-horse cultivator. If you would mark out your ground first, making the lines the distance apart you want the ridges to be, you would find it easy to make them straight by walking the horse on the line, provided, of course, you have made four lines straight. As the tops of the ridges made in this rapid way will be somewhat uneven, it is well to go over them with a rake. Then set your plants along the top of the ridge about every 15 inches. Set them pretty well down in the soil and leave a basin around each plant that will hold from one to two pints of water. Have some one follow the planter and water each plant. Go over the next day or soon as dry enough and level in the soil around the plant. The after care will be to keep the field clean and give water as needed. As to the quantity of seed per acre, it will depend upon so many things, that it is difficult to name any exact quantity. The skill and experience of the grower counts for much. It will range from two to four hundred pounds.—Q. A. L.

Pumpkins for Cows.

Do dairymen generally dry off their cows for several weeks before they become fresh? If so, for how long? If a cow has milked for two years, does that make it more necessary for her to have a rest? About what is considered the proper interval between calves? What is the value of pumpkins as cow feed? R., Clarement.

Usually six weeks. I should not try to dry off a cow that was giving three gallons of milk a day. No, it is not necessary, some cows milk seven or eight years continuously. This depends on the use the cow is put to. In a breeding herd cows produce a calf every year. In milking herds often milk two years between calves. Sometime when a cow is of great value as a producer of calves she has a calf every ten or eleven months.

The value of pumpkins is two dollars a ton for ordinary ones; two and a half for crook-necked squash. They add succulency to a cow's feed. They are fed from ten to thirty pounds a day. Cut them up and sprinkle bran over them. Give only a few pieces at first and increase up to full feed. The pumpkins are fed always with grain and some long hay. Fed as the only feed a cow would starve on them.

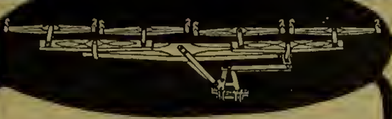
Knot Worms.

Can you give me a recipe that will cure vomiting? We have a dog that is troubled with vomiting every half hour. He gets fed three times a day and still he is hungry. L. K., Suisun

Your dog is troubled with knot worms. Do not feed him meat and confine diet to bread and milk, in which give three disks of Nux Vomica twice a day. A physic of Castor Oil should be given—1 ounce. This treatment to be every day for three days. This will bring away the worms and the Nux Vomica will aid digestion.

That poultry essay contest is one of the most liberal propositions of the kind. Do not neglect it.

HEIDER



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Loss of Milk.

We have a cow fresh about three months ago. Big, fat and in good health. Feed her 2 quarts bran twice a day and all the alfalfa and oat hay she will eat, and she gave about three gallons milk a day, till suddenly, two nights ago, she did not come up for her feed at milking time, and one teat seemed a little swollen. Next morning that teat had very little milk and only a quart in rest of bag. Now that teat is dry and the rest give very little. The bag is soft, as usual, except the dry teat which is harder than the others, though not caked, apparently. Mrs. H. R., San Dimas.

Are you sure some one or something is not milking this cow. We have had cases of this kind occur at night from tramps taking the milk. Try keeping her under observation for a day, she may be milking herself. When the appetite returned the milk flow should come with it. M. E. S.

Indigestion.

I have two horses that have been troubled with chronic diarrhoea or scours for six months or more; the one case nearly a year. I have tried various remedies, all to no purpose. They are both about 15 years old and have had their teeth dressed recently, two or three months ago, but there is no change for the better. They are both at work every day, but are unfit to drive on account of the looseness of the bowels. Am feeding alfalfa hay and barley. Have fed grain hay (wheat) with no changes in condition. They have access to salt. O. J. Vine, Lindsay.

Your horses have indigestion. Reduce the amount of hay feed and give the following:

1 ounce powdered charcoal.
1 tablespoon bicarbonate soda.
1 teaspoon ginger.
In bran morning and night.
Water 30 minutes after feeding.
Cover at night to keep warm.

Pecans.

What kind of climate and soil is necessary for growing pecans? Do you think Sonoma county would grow them, citrus and deciduous fruits thrive here. Subscriber, Sebastopol.

Pecans do better where the summer temperature ranges higher than it does in Sonoma county. The trees will grow well enough, and are very valuable as a symmetrical avenue tree, or for timber, but to mature the nuts in good season, the Sacramento-San Joaquin Valley, or the small interior valleys in Southern California, would be preferable. A deep soil, with abundant moisture is required. Pecans would thrive in Sonoma county, but not as a commercial proposition for the production of the nuts. Leonard Coates.

Moles.

Will you kindly answer in your query column if "moles" do any harm in an orange grove. Their runs seem to circle the tree trunks. Is there any thing else that leaves a track like a mole?—W. David.

We have never heard of any injury from moles to orange or any other trees. They live almost entirely on insects in the soil. We would surely allow them to remain in orchard till shown conclusively that they do damage. On lawns they do damage by throwing up ridges. In orchard we think they would be beneficial. But don't let a gopher live a minute. The gopher throws up his dirt in little mounds, while the mole forces up little ridges as he burrows his way after insects just under the surface.

Veterinary Instruments, Black Leg and Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Bloody Milk.

I have a cow whose milk, from one quarter of the udder, is mixed with blood for the last two days; there is no inflammation in udder nor is it from a large flow of milk. I found traces of blood several times during the last three months. —A. B. C.

A broken blood vessel in the udder cannot be treated. Sometime when the cow goes dry they heal naturally. The usual practice in these cases is to use two milk pails and either separate or set the milk containing the blood for cream. When it is set the bloody portion remains in the bottom of the pan.—M. E. S.

Inflammation of the Kidneys.

I have a horse and mare coming two years old next spring that are stiff in hind quarters and walk with hind legs slightly straddled. The horse seems worst and when standing will occasionally lift his hind feet as though in pain, but aside from that they seem to feel well and eat and drink as usual; have been running on river bottom pasture until a couple of weeks ago, when I put them with others on short alfalfa pasture. They look gaunt and tucked up in flanks. The horse sweats quite freely, especially in flanks and hips, but the mare very little; the pulse of horse is from 75 to 80. W. B. W.

I think your horses have kidney trouble; may have been strained. There are so many causes for this condition, and so many remedies, I would advise a veterinarian.

Worms.

I have a mare about twelve years old without a very good appetite, slightly falling off in flesh and drinks lots of water, which makes bowels very loose. Her teeth have been looked after. G. E. P.

Your horse has symptoms of intestinal worms.

Give a pound of Orleans sugar in two quarts of bran twice each week for two weeks.

On alternate mornings use the following: Baking soda, powdered ginger, powdered gentian, wood ashes, equal parts—one ounce at a feed, in bran mash (light) cut out grain for a time and feed equal parts of alfalfa and clean oat hay.

Water 30 minutes after each feed and blanket at night, covering thoroughly.

Follow these directions for two weeks and report.

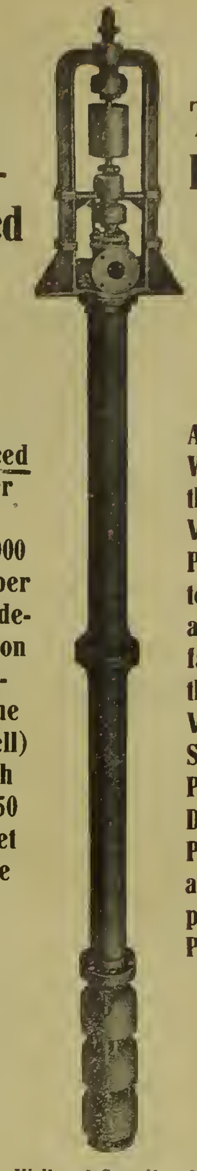
Defective Hay.

Will one of your writers please tell me through the columns of the Cultivator what there is about alfalfa hay that is well cured, green and nice (third crop and clean, except a very litle alkali weed and morning glory which grew only in spots) that would cause colic and inflammation of the bowels. I have lost two horses and had the third, a yearling, sick three times. I would keep him up four or five days and he would take sick. Then turn him out and he would be all right until I would keep him up again. My neighbor has lost two and had the third one sick. Kindly advise a remedy and oblige. B. M. C., Yuba City.

There is nothing in these named foods that horses are not eating in many other parts of the State without ill effects. I should think there was something else ailing these animals, perhaps some intestinal worms or something of that nature. Write to Dr. Haring, Experiment Station, Berkeley, for advice.

A telephone line has been constructed to the forest reservation in the Arroyo Seco near Salinas.

Veterinary Instruments, Black Leg and Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.



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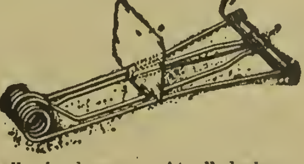

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CALIFORNIA'S CHRISTMAS.

The old glad bells of Yule ring out
To skies of azure hue,
And all the happy springtide land
Smiles upward to the blue.

The odor of the violet
Is on the southern breeze,
The sunshine glistens on the green
Of dark magnolia leaves.

The pepper trees have hung their boughs
In rosaries of red
And stately palms are whispering
Together overhead.

A thousand lily cups are filled
Brimful of wassail cheer,
And feathered minstrels fill with song
The festal atmosphere.

Within the shelter of the hills
The holly bushes glow,
While dreamily above them sway
The oak and mistletoe.
—Janette Campbell, in Sunset Magazine.

THE VOICE THAT CALLED.

The following original story for the Cultivator, was written by Julia Hughes Persing, and should have been in before the Christmas time, but owing to crowded condition of the columns was held till this issue.—Ed.

THE spirit of the Yuletide seemed drifting and floating everywhere. It stole upon the keen, wintry air, played amid the sportive snowflakes and carried upon the laughing wind.

The tall, young man, stepping from the north-bound train, felt the subtle power, resented its influence, but yielded to its drawing influence, his hat down over his eyes and buttoned up his great coat.

The snow was falling in clouds. The pavement was icy. The old familiar streets drew him on unwillingly.

Now he was near the old house—he had said he would not come back. He had vowed he would not, yet here he was. As he leaned on the hedge, his father's stern rebuke, reproaches and warnings came upon him again. And his mother's tears!

He turned to leave the spot, for how could he face them again? But softly, other memories clustered round him and he turned to gaze at the great walls. The same feeling which had impelled him homeward made him now pass slowly through the archway and up the terraced walk. He was on the steps. Now he was at the door. Suddenly it opened wide and a little figure in white with long golden curls, stood looking at him gravelly.

"Come in," she said, sweetly. "I was waiting for you."

Certainly this must be the little babe whose wailing and fretting he had so resented formerly. Did five years make such a difference in all children?

"We were looking for you," repeated the little girl. "Come, I will take you up to your room."

He followed as in a daze. A maid flitted across the hall—no one else in sight. He entered his own room, arranged with such exquisite care. On a stand stood a vase of rare roses, filling the room with rich perfume. He sank down into an easy chair and looked around. Why had he left such a room and home?

Why? The dissolute years flung the echo back into his face and laughed at him out of the past—mocking him. He bowed his head in his hand. At his feet seemed to lie the broken, shattered fragments of what might have been an honorable, useful life. Thoughts upon thoughts ran riotously about him bringing other troubled thoughts along.

At last he raised his head and looked at the strangely quiet child before him.

"Did you know I was your brother?"

"Oh, yes. Mamma told me."

"Why did you look for me?"

"Because mamma said you would come, sure."

"Where is mother? Is she here?"

"Oh, no!" a shadowy look passing over her face. "She is away out on Rose Hill, and——"

"What!" cried the young man, springing from his chair and grasping the child. "What do you mean?"

There were tears now in the great child eyes. "There were lots of carriages and they took mamma in the prettiest of all."

"O, my God!" he cried, sinking again into the chair, while memory lashed and scourged him with her many thronged lashes. Where had he been—ah, where might he not have been and what not doing, as that stately procession wound up and over that dreaded hill?

He could not believe it! Had it been his father, whose locks were silvered—but his mother! so young she had seemed to him and to others, so straight and lithe a form and beautiful of face. And he had left her in tears because of his wayward conduct.

In all his thoughts of home he had not thought of death.

"Mamma said you would come at Christmas time. She told papa to have everything ready. So we were waiting."

And this was the power that had reached after him, wooing and drawing him away from sin, pleading with him to come home—the magic of mother-love.

* * * *

There were steps in the hall, a man's stern, rugged face chastened by a great sorrow; deepset eyes in whose soul depth lay the light of the victory of parental love over justice—a man who looked eagerly through the rooms as he entered, half hopeful, half doubting.

From out his wife's room came two—a child with lovely curls and thoughtful eyes, and a young man over whose face the light of a new, deep and holy purpose was stealing, driving weakness from its old haunts among his features.

"My son!" said the older man, and the tenderness in his voice wiped out all the wrongs of the past and bespoke hope for the future.

And the pictured face on the wall smiled upon them all, while the spirit of the Yuletide closed softly in around them, with its fragrance, its blessing and its messages of the One who brought to earth its "Peace and good will."—Julia Hughes Persing, Ceres, Cal.

Soaps are made mostly from soda lye, instead of potash, the soda soaps being hard and the potash soaps soft. soapsuds, therefore, contain but little, if any, potash, but serve to prevent insect attacks to a certain extent. Some plants, like celery and asparagus, seem to thrive when drenched occasionally with soapsuds, which is probably due to the fact that soda is beneficial to such crops.

The Personal Neatness Club

SOME are inquiring as to our Personal Neatness Club. And at the same time have sent some suggestions. New Years is coming and that is the time when the bad man resolves to do better and turn over a new leaf. It may be wise to discuss as to whether the girls may turn over a new leaf profitably.

If we could so live that the pages of our life would contain no blots, and always be fair and beautiful, it would be far nicer than this turning the new white leaf over occasionally.

But since the time of mistake in Eden, it seems that we are prone to make the blots for which we are always sorry. Then we wish to see the fair, white page of a new day or a new year when we can begin with renewed determination to keep it fair, that we may look at it with pride and pleasure as we turn it over.

While the length of time which New Year's resolutions hold is a standing joke, they are none the less beneficial to us all. Therefore, let us spend the first days of the New Year in looking in and finding out the blots of last year which next year we will try and keep from our pages. Then after New Years let us

"Look out, not in,
Lend a hand."

Be helpful.

Be clean in mind and body.

Be cheery.

Be kind, always.

Be conscientious.

Be loving.

Be frank, easy and cordial in manners. Do not fear to show you have a heart. Do not hesitate to say a kind word to this one or perform a trifling act of courtesy for that one. Give a cheery word to the aged one whose journey is almost over. Speak the timely word to the sad-faced man or woman whose loneliness your well-meant effort will cheer.

Do not be afraid to let the sunshine of your happy souls flow out. Greet all you meet with a smile.

* * *

We recently promised something more from Mrs. Sherman. The hints are not so much along the line of personal neatness, as household neatness, but the terms are synonymous.

Cleaning Silver.

Alcohol with alum will take many spots off the silver. When the chasing becomes dark pour out a little alcohol and dip the cleaning brush into it, then into the powdered alum and leave the alum on for a day. Olives being salty should not be served in silver dishes, as they may bring out spots then it will be necessary to send the silver to the jewelers to have removed.

Cleaning Porcelain.

Discolored and grimy porcelain bath tubs should not be scurbbed with sand soap as it will destroy the glass lux finish that is put over the porceain to protect it from absorbing stains. Gasoline, or better, napholine are perfect cleansers. The coffee cups often show a ring where the hot coffee has stained them; a little gasoline will remove most of this. It s not amiss once a year to treat the tains on the meat platters. By using a tub and putting the dishes into t out of doors there is no danger of xplosion, but do not risk handling asoline in the kitchen for this purose.—M. E. S.

M. H. comes with a few dress hints. She has been with us before. They are good and most welcome.

The Popular Fad.

Every woman with a dainty artistic taste now desires to have some of her own handiwork on her waists and lingerie, and it certainly seems as if many have this taste judging by the numerous kinds of embroidery now done on these garments.

They also embroider tray cloths and lunch sets in colors or with white embroidery threads as desired. The white is, of course, the more durable, as repeated launderings of the colored embroidered pieces will dim their luster, but it is only fair to say that with careful handling in the laundry the colors will remain "as good as new" for several seasons, and it cannot be denied that a touch of color is very effective on the lunch cloths.

The waists are generally embroidered on such delicate fabrics that they, too, require careful laundering in warm suds made of white soap with borax added to soften the water and make less rubbing necessary, as they should not be rubbed much in the washing nor wrung hard and the bluing should be stirred in with the hand, before putting the waists in, to avoid streaks. A good cold water starch to use to stiffen these embroidered pieces is mixed in the proportion of one tablespoonful of starch to a half pint of water, a little borax and four drops of turpentine, and if made of very sheer material and you only want a little stiffening, a little borax put in the last rinse water will make them plenty stiff enough without the starch. If your waists have lace edging on them, should be ironed before the rest of the waist and pulled out gently with the fingers, and all such articles should be ironed on the wrong side before they are quite dry.—M. H.

HOMELY HINTS.

Rust on Clothes.

It is said that rust spots are frequently traceable to the bluing used in washing. Prussian blue, which is sometimes used in their preparation, is a compound of iron, and in the presence of an alkali deposits a rust spot. You can test it by boiling a little of it in a vessel with soap, or, better still, with caustic potash. If iron separates, the compound is Prussian blue, and you will have to be careful in rinsing to get out all of the soap.

To Kill Ants.

Small black or red ants may be banished by a little attention. A sponge is one of the best things. Sprinkle it with dry, white sugar. The sponge must be slightly moist, so that the sugar will adhere. The ants will go into the cells of the sponge after the sugar in large numbers and can be destroyed in hot water and the sponge washed and sugared again and returned to the closet for more until all are caught.

Insect Stings.

The best remedy for the sting of insects is that which will instantly neutralize this aciduous poison deposited in the skin. This is either ammonia or borax. The solution of borax for insect bites is made thus: Dissolve one ounce of borax in one pint of water that has been boiled and allowed to cool. The bites are to be dabbed with the solution so long as there is any irritation. For bees' or wasps' stings, the borax solution may be made of twice the above strength. This solution should be kept as a household remedy in every farm house. In case neither borax nor ammonia is at hand, a little soft soap or ashes should be moistened and applied at once to the bite or sting.

* * *

The proper way to wash silver is in scalding hot suds in which nothing else has been washed. If the silver is much soiled, hold the forks, spoons, etc., by the handles and pour a stream of clean hot water over the soiled parts to free them; then put the silver into the clean suds; rub it well with a sponge fastened to a stick, drain it out, and without rinsing wipe it vigorously on a clean towel. It will shine as if highly polished. Once a week after the suds, drop the silver into a pan of hot water, pretty strong of ammonia; wash it well in this; wipe, and then rub with paper.

Wash tarnished silver in hot soapy water; rinse in clean water and dry with soft cloth. Polish with a little fine chalk or pulverized whiting, using chamois for a final polish. If very much engraved, use silver brush to remove any of the chalk or whiting.

Silver may be kept bright if placed in an airtight case, in which there is a good sized piece of camphor (about the size of a hickory nut). Another method is to first warm the silver and then paint it with a thin solution of collodion in alcohol, using a wide, soft brush. Both these methods will be found excellent. A good cleaning and polishing compound is made as follows: Ammonia, eight ounces; prepared chalk, one ounce; mix and keep corked. Apply with a soft cloth or chamois.

To clean water bottles and decanters, mix together half a gill of vinegar and a handful of salt. Shake well in the decanters to be cleaned, and no matter how discolored, this treatment has been tried and found successful.

Chemists claim that it takes more than twice as much sugar to sweeten preserves, sauces, etc., if put in when they begin to cook as it does to sweeten after the fruit is cooked. Aside from this fact, it should be remembered that fruit which has been allowed to boil after sugar has been added has a changed and inferior flavor.

GIRLS, BE GIRLS!

When a girl enters the business life she cuts off her chances for becoming a wife, and the business life itself unfits her for that position. Man looks upon the woman in business as his rival and when looking for a wife generally chooses from those trained in domestic and social life, and this will be more and more the case in the coming years. The business life makes the girl more self dependent and, while it may submit her to more tempations, it makes her stronger by overcoming, and she learns to be less trusting and less credulous than she who is unaccustomed to the world. But it does not tend to make her a contented, happy wife. She is apt to become restless under the confinement of the home life. Having been accustomed to earning her own money and spending it as she liked, she feels humiliated to have to be dependent upon some one else for every cent she needs, and her attitude towards her husband will not be such as to produce harmony and love. If her training has been such as to train her for business, her domestic training has necessarily been neglected. Several years ago, a woman whose daughter was then entering the business life, said to me: "It is not necessary to train daughters in domestic affairs. It will all come naturally when they come to it." But is that a fact? I think one can be trained away from anything, and housework does not come naturally to all girls, even after having been trained. The mother who has her daughter's welfare at heart will do as the old-fashioned mother did, train her in all the arts of housekeeping, and teach her that the highest position she can fill is that of the mistress of a happy and well-managed home.

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LINERS

Liner Advertising

Advertisements in Liner Column 1½ cents per word. Eight words to a line. No advertisement taken forless than 25 cents.

TREES.

FOR SALE—ABOUT 50,000 BLUE GUMS, fine plants ready any time after January 15th. Price low if ordered quick. H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

20,000 SEEDLING AND GRAFTED WALnuts, fruit, ornamental trees, palms, roses. A thrifty, well grown stock. A. R. MARSHALL, nurseryman, sales yard cor. Third and Main streets, Santa Ana, Cal.

FOR SALE—A CARLOAD OF EVERGREENS, trees and shrubs just received from the north, very fine stock. H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

EUCALYPTUS TREES—ORDER NOW AND have your choice of any variety at any time, of any size. A. L. HURTT, San Bernardino, Cal.

BUDDED ORANGE TREES, VALENCIA AND navel 2-year-old buds, clean and thrifty stock. Address, F. E. CHAPMAN, R. F. D., box 34, Pasadena, Cal.

EGGS FOR HATCHING.

EGGS FROM MY PRIZE WINNING Barred Rocks; won all special and 13 regular prizes on Barred Rocks at late Los Angeles show. Eggs from best pens, $2 and $3 per 15; $10 per 100. Can furnish any quantity. Also offer extra bargains in breeding stock. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

NINETEEN HUNDRED AND EIGHT Poultry business will be more profitable than ever. Order your eggs for hatching now. We have thoroughbred White Leghorns and Wyandottes. Also a few beautiful White Holland Turkeys for sale. SAN GABRIEL POULTRY FARM, San Gabriel, Cal.

BERRY PLANTS.

FOR SALE—200,000 PLANTS INCLUDING Phenomenal, Mammoth, Himalya, Giant Dewberries and raspberries all well rooted and strong plants. Send for catalogue to R. J. HUNTER, Oak View Berry Farm, Gridley, Cal.

FOR SALE—KLONDIKE, EXCELSIOR, Arizona and other varieties of strawberry plants, $2.00 per thousand, f.o.b., Gardena. Would like to deliver plants by first of January. Address, D. P. DUNCAN, Gardena, Cal.

CLEAN-UP PRICES—HIMALAYA BERRY Plants, $3.00 per 100 plants. Money orders payable at Redondo, Cal. EUGENE J. SHARADIN, Perry, Los Angeles county, Cal.

FOR SALE—MAMMOTH BLACKBERRY, 100, $3; 1000, $25; Himalaya Giant blackberry, 100, $4.50; 1000, $35. Express prepaid to California points. ADELBERT COOLEY Laton, Cal.

WANTED—ONE-YEAR OLD LOGANBERRY plants. Address, P. O. BOX 2697, Fresno, California.

W. J. ROOKS OF AZUSA, CALIFORNIA, has for sale a special fine line of Brandywine strawberry plants. $2.50 per 1000.

STRAWBERRIES, 91 SELECTED VARIEties, list and prices on application. TRIBBLE BROS., Elk Grove, Cal.

MACHINERY.

FOR SALE—35- H. P. WESTCOAST GASOline engine almost new at a sacrifice; no further use for same. 943 N. MAIN St., Los Angeles.

FOR SALE—CHEAP FOR CASH 3-H. P. Union gasoline engine in good running order. N. W. cor. MAIN AND BRUNO STS., Los Angeles.

FOR SALE—IN A-1 CONDITION; 60- H. P. Fairbanks-Morse distillate engine at a snap. WAITE, BAILIE & CO., Los Angeles.

PHEASANTS.

"PHEASANT FARMING," ILLUSTRATED, 25c. Tells how to raise pheasants. Birds and eggs for sale. SIMPSON'S PHEASANT FARM, Box C247, Corvallis, Oregon.

ARTICHOKES.

FOR SALE—JERUSALUM ARTICHOKES—The great winter hog feed. Address FANCHER CREEK NURSERIES, Fresno, California.

FARM LANDS FOR SALE.

FOR SALE—1 to 10-acre tracts on car line between Riverside and new cement works. Good for chicken ranches, alfalfa or gardening. Will sell on easy terms. Plenty of water on each tract. N. R. BELL, Riverside, Cal.

POULTRY

WHITE WYANDOTTES—"CREAM OF THE Coast" strain—the 200-per-year kind. Barred Plymouth Rocks, my "Blue Diamond" strain, are great winter layers of big, brown eggs. No incubator lots furnished. Eggs per 13, after Jan. 1, carefully packed, $1.50. Address WILLIAM C. PARKER, 111 Pacific avenue, Santa Cruz, Cal.

BLUE ANDALUSIANS. WON ALL PRIZES at Los Angeles County Show, 1907. A few good trios and pens; also good breeding cockerels; eggs for hatching, $2 and $2.50; no better stock anywhere. MRS. T. R. GRIFFITH, 3111 Walton ave., Los Angeles, Cal.

S. C. WHITE LEGHORNS—I HAVE 35 hens and 2 cocks 19 months old selected breeders hatched from Howard's best pens. I will sell the lot for $70 or 17 hens and 1 cock for $35. CLYDE J. MOSS, Corona, Cal.

CORNISH INDIAN GAMES—FOR SALE—a few choice cockerels eight months old from $2.00 to $4.00, according to choice. F. S. ASHBY, box 52, route 2, Long Beach, Cal.

SITUATION WANTED.

WANTED—SITUATION BY RELIABLE INdustrious, young man with California experience in vineyard, orchard and general farm work. Address, "Vineyardist," care of "Cultivator," Los Angeles.

GRAPE CUTTINGS WANTED.

WANTED—CUTTINGS OF THE FOLLOWing for grafting purposes: Rupestris St. George, Riparia x Rupestris 3306, Riparia x Rupestris 3309, Riparia x Rupestris 106-8 and Mourvedre x Rupestris 1202. Address FANCHER CREEK NURSERIES, Fresno, California.

MISCELLANEOUS.

DELMONICO'S CHEF SAYS: "THE ANchor egg separator works perfectly; no well regulated hotel or household can afford to be without it." Send ten cents, or ten names of persons keeping poultry, and we will send one postpaid. WEST COAST MILL, 818 San Fern

FLOWERS.

FOR SALE ROSES—FINE ASSORTMENT of field grown 2-year-old grafted roses. Now ready for delivery at $3.00 per dozen; none better in the State; order quick. H. L. BAUER & SONS, 737 S. Spring St., Los Angeles.

LIVE STOCK WANTED.

WANTED—ONE HUNDRED TWENTY good young Jersey cows. None but Jerseys wanted.. Will accept single carload lots. Geo. A. Smith, Corcoran, Cal.

SEED CATALOGUE.

The Johnson & Musser Seed Co's. catalogue for 1908 is before us. It is with pleasure that we note a great improvement in its appearance. The Santa Claus melon on the front cover looks good enough to eat. We understand that this melon, though only last year introduced by Johnson & Musser, has made a signal hit on the eastern markets this fall and winter. The supply is not now equal to the demand, and we judge that Santa will not have enough of this unique fruit to go around. On the back cover is displayed three magnificent watermelons all of which have originated in Los Angeles county. From our own experience we know that they are as good as they look, and feel confident that all the world together cannot equal these triplets.

We are indeed, pleased that the above firm is in the field with so many new and good things.

One of the features that strikes the eye is the great variety of Casaba melons, three new additions have been added this year, the Genoa Casaba. the Golden Beauty and the improved Hybrid Casaba, seed of all of these, we are told is very limited, just about enough to get a good test from for the coming season. The improved hybrid is said to be very promising. The propagation will plant forty acres next year.

The Hybrid and the improved Casaba made such a distinct hit last season that they threaten to push all varieties of both cantaloupe and muskmelons out of the market except for the early part of the season.

Among the more prosaic plant foods, new and promising, we note the monstrous pole lima bean, it is so fruitful that a yield of four tons to the acre is considered a conservative estimate. The seed of this promising bean is so limited that a dozen seeds sell for twenty cents; everybody should give it a trial.

The Perfect Pepper recently introduced by this firm is now past the experimental stage and far outclasses all others. We are glad to see that the seed of this wholesome vegetable is now to be had at a comparatively low figure.

Among the good things being originated in Southern California we wish to mention the California Pearl cauliflower, Oregon evergreen sweetcorn, Anaheim Chili pepper, white Early Rose potatoes, Angelus Phillipino and Chilean watermelon, the Hybrid Casaba and Santa Claus watermelon.

"SURE HATCH" PRIZES.

The Sure Hatch Incubator Company announces a prize contest for the year 1908 which will far exceed in liberality all previous contests.

The company has divided the United States into six districts and increased the number of "hatching" prizes in each district to seven, making forty-two prizes, besides numerous cash prizes for the best photographs showing the "Sure Hatch" Incubator in operation.

The majority of the prizes are "Sure Hatch" Incubators, which are well worth striving for, as these incubators are famous the world over for their splendid hatching qualities.

The Sure Hatch Incubator Company is the largest incubator concern in the world, and sells its output direct from factory to user at the factory price, on unlimited trial.

Readers of this paper who are interested in raising poultry for profit should write to Sure Hatch Incubator Company, Box 150, Fremont, Neb., or Dept. 150, Indianapolis, Ind., for the "Prize Circular" and valuable book on Incubators and Poultry Profits, both of which are free, postpaid.

The Produce Markets

Los Angeles Markets

LOS ANGELES, Jan. 1, 1908.

Butter.

The price of butter is now satisfactory to the producer, though manipulation of markets throws the greater part of the profit to the dealers working the market back and forth to suit his own convenience. Extra creamery has been advanced 2½ cents during the week. Other grades practically same as last week.

Creamery extra per roll	77½
Firsts	57½@60
Seconds	60
Dairy	45
Cooking	45@47
Eastern	62½@65
"Butterine"	15@22½

Cheese.

Cal Young America per lb	20½
Hand	20½
California Anchor	19
Northern fresh	17¼@17½
Eastern singles	19
Imported Swiss	32
Tulare flats	18½
Domestic Swiss	21@22
Oregon	18

Eggs and Poultry.

The egg market has offered several opportunities for scraps during the week, the bulls and bears each trying to have their way. At present the quotations on local candled are a couple of cents below last weeks quotations. Eastern show a still greater decline.

Eggs local candled	33@35
Eggs case count	30@32
Fresh Eastern	22@24

Poultry market was stimulated by the holiday demand and is now slightly advanced over last week.

Hens per lb	14
Young roosters per lb	15
Fryers	18
Broilers per lb	21
Old roosters	8
Turkeys	15
Geese	13
Ducks	16
Squabs	1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 lbs	6¼
Prime steers	4½
Heifers	4
Calves per lb	4½@5
Sheep ewes per head	4.75
Lambs per head	3.75@4.25
Wethers	5.50

Potatoes.

Highlands	1.15@1.35
Early Rose	1.75@2.00
Salinas	1.75@1.85
Sweet potatoes per sack	2.00@2.25
Oregons	1.35@1.50
Idahos	1.25

Onions.

Silver skins	2.50
Yellow Danvers	2.30@2.50
Australian Browns	2,25@2,50
Oregons	2.50@2.75
Colorado	2.30@2.35
Garlic	10

Vegetables.

Artichokes per doz	1.15
Beets per doz	30@35
Bell peppers per box	60
Beans limas per lb	5@6
Beans green	8
Brussels sprouts per lb	5@6
Cabbage sack	40
Celery per crate	1.50
Chili peppers green lb	2@2½
Cucumbers per box	30@50
Cauliflower	75
Carrots per doz	30@40
Eggplant per lb	4½@5
Green onions doz bunches	10@30
Hubbard squash per lb	1@1½
Lettuce per crate	25@50
Pie Pumpkins	1½
Peas sugar per lb	5
Parsley	30
Parsnips	35@40
Rhubarb per box	75
Radishes per doz	15@20
Salsify	30
Spinach per doz	10@25
Squash crate	50
Turnips doz bunches	40
Tomatoes per box	1.75@2.00

Citrus Fruits.

New oranges	1.85@2.00
Culls	75@1.00
Grapefruit seedless	2.50@3.00
Grapefruit seedlings	1.75@2.00
Lemons fancy	2.25
Lemons choice	1.50@1.75

Fresh Fruits.

Bellefluers	1.90@2.00
Baldwins	1.25@1.50
Pippins 4-tier	1.50
Gravenstein	1.50
Alexandria	1.00@1.50
Cooking	50@1.00
W W Pearmains	1.75
Colorado Jonathans	3.50
Casaba per crate	2.00@2.50
Figs black per lb	8@12
Figs white	11@12
Guavas	6@8
Pears	1.25
Winter Nellis per lb	6
Pomegranates per lb	7
Persimmons	5@10
Quinces	1.25
Raspberries	15@18
Strawberries	6@8

Dried Fruits.

Apricots	17@21
Evap apples fy per lb	10½
Figs loose	4@6
Peaches	12@13
Pears	12½@13
Nectarines	13@14
Prunes	3½@5½
Plums	11½@13

Beans, Dried

Limas per ctl	5.25@5.50
Pink No 1	3.60@3.70
Lady Washington	3.75@3.95
Small White	3.75@3.85
Black eyes	4.50@4.75
Garvanzas	5.25@5.75
Lentils	12@12½

Nuts.

Almonds per lb	18@20
Peanuts Virgina	8½@9
Peanuts California	6@7½
Walnuts No. 1 S S	15@16

Hay.

Barley No 1	14.00@18.00
Barley No 2	13.00@14.00
Alfalfa northern per ton	15.00@17.00
Alfalfa new local	15.00@17.00
Plain Oat No 1 new	16.00@18.00
Wheat No 1	18.00
Wheat No 2	14.00

Grain.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl	1.85
Wheat in 100-lb. sacks	1.90
Barley	1.50
Corn Eastern sacked	1.80
White oats	1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn	1.85
Shorts	1.55
Bran	1.40
Oil cake meal	2.50
Feed meal	1.90
Rolled barley	1.75

A VALUABLE RANCH.

One of the signs of the times which is agreeable, is to see large financial institutions going out and buying acreage property. City property sometimes offers fine speculative opportunities, but ranch property is almost invariably a safe investment.

One such company, looking to ranch property, is the Southern California Trust Co. This concern has amongst other properties a fine ranch near Corona of over 300 acres, which 125 acres is alfalfa and which supports 115 fine dairy cows. This is called the Lugo herd and is in charge of Nelson Teeter. The greater number of the cows are registered Jerseys, with a Marigold bull at the head of the herd.

Mr. Geo. A. Otis, of Pomona, is manager of the ranch properties of this large concern.

FOR COLD ROOMS HARD TO HEAT.

The coming of the cold weather gives rise to the question of how best to heat those rooms and hallways of the house that seldom if ever warm up, no matter how big a fire there may be in the furnace or other heating apparatus.

The best way out of the difficulty is the use of auxiliary stoves—and of these it would be difficult indeed to find anything so handy and at the same time so clean and economical as the Perfection Oil Heater.

Another home comfort for the long winter evenings is the Rayo Lamp, which can be used in any room in the house—from parlor to bedroom. It has the latest improved burner, making it unusually safe and clean, and an ideal lamp for all 'round household use.

The Perfection Oil Heater and the Rayo lamp, combining as they do to make the house warm and cheerful, are valuable additions to any home, and no household should be without them. They are sold at a moderate price by dealers everywhere.

San Francisco Markets

SAN FRANCISCO, Jan. 1st, 1908.

Butter.

Butter has declined severely during the last week, and was during the earlier days very weak in tone. At this time while the quotation is lower the tone is stronger.

The current prices on dairy products in San Francisco are always from 2 to 3 cents higher than the rates given in the daily official list of the Wholesale Dairy Produce Exchange. The retail dealers in this city invariably pay an additional 2 cents per pound on butter and per dozen of eggs, and occasionally it is 3 cents. On cheese the increase is 1 cent per pound. By making these additions to the Dairy Exchange prices the producer in the country can always determine the actual prices ruling in this city. The quotations as prepared by the San Francisco Wholesale Dairy Exchange yesterday were as follows:

California extras per lb	.33
California firsts	.31
California seconds	.25
Eastern extras	.24½
Storage Cal ex	.24½

Cheese.

California young American fy	.16
California flats fy	.15
Eastern fy	.18½
Oregon fancy	.15½

Eggs and Poultry.

Eggs are declining rapidly and show at this date a decline of 5 cents from ast week's quotations.

Fresh ranch eggs	.40
Eggs firsts per doz	.38
Eggs second per doz	.30
Eggs thirds	.23
Storage Cal extra	.28
Eastern Selected	.22
Eastern firsts	.19

Poultry market is featureless and he receipts are lighter.

Hens per doz	4.50@6.00
Hens extra	6.00@7.00
Young roosters	6.00@7.00
Old roosters	4.00@4.50
Fryers per doz	5.00@6.00
Broilers per doz	4.00@5.00
Geese per pair	2.00@2.50
Ducks young	4.00@5.50
Turkeys per lb	.18
Pigeons	1.00@1.25

Live Stock.

Steers No. 1	8@8½
Do second quality	7@7½
No. 1 cows and heifers	6½@7
Hogs 80 to 200 lbs	6@6½
Hogs 200 to 300 lbs	5½@6
Calves per lb	4½@5
Lambs spring	6@6½
Wethers No 1	5@5½
Ewes No 1	4½@5

Potatoes

River whites	50@75
Oregon Burbanks	75@1.00
Early Rose	1,25@1.35
River Reds	1.35@1.40
Salinas	1.50
Sweets per crate	2.25@2.50

Vegetables.

Celery per crate	75@1.00
Corn per sack	1.50@1.75
Cucumbers per doz	1.00@1.25
Chili peppers per lb	5
Bell peppers per lb	5@6
Egg plant per lb	10
Green peas per lb	3@5
Squash per box	50@1.00
Marrowfat squash per sack	60@75
Mushrooms	15@35
Hubbard squash per sack	60@80
Rhubarb per box	1.00@1.25
Tomatoes local	1.00@2.00
String beans	12½@15
Wax beans	6
Garlic	4@6

Onions.

Onions br Australian per ctl	75@2.00
Yellow Danvers	2.00
Oregon	2.25

Citrus Fruits.

New navels	1.25@2.25
Grapefruit seedless	2.50@3.25
Lemons	1.50@3.00
Limes	2.00@4.00

Fresh Fruits.

Newtons	1.50@1.75
Spitzenberg	2.25@2.50
Apples small stock	40@75
Figs one layer	50@1.00
Huckleberries	12½
Pears winter Nellis	2.00@2.50
Pears cooking	1.00@1.50
Persimmons	75@1.25
Pomegranates per box	1.00@2.50
Quinces per box	1.00@1.25
Raspberries per chest	10.00@12.00
Strawberries per chest	5.00@10.00

Dried Fruits.

Apples (evap.)	10@10½
Apricots per lb new	18@21
Figs white	3½@5
Nectarines	12½@15
Plums pitted	12@15
Prunes 4 sizes	4@5½
Peaches	10@13
Pears	7@13
Prunes 4 size bag basis	4¾@5

Beans, Dried.

Limas	5.15@5.20
Pink	3.20@3.25
Small white	3.45@3.50
Large white	3.00@3.10
Lady Washington	3.40@3.50
Black eyes	4.00@4.25
Red kidneys	3.40@3.50
Bayo	3.15@3.25

Hops.

Hops new future delivery per lb	4@8
Hops old fancy	2@3

Nuts.

Almonds new	16½@17½
Peanuts California	6½@7½
Walnuts	14@17

Honey

Clear white comb	16@17
Amber	12@15
Extracted	7½
Beeswax No 1 per lb	25@27

Hay.

Somers & Co. say:

"Arrivals of hay show a material diminution from those of last week, the total showing 2550 tons in comparison with 3360. Water arivals have been the lightest that we have experienced for some months and it is quite evident that holders of hay at bay landings believe that they are warranted in discontinusing shipments in anticipation of a renewed car scarcity later on. Car shipments have been lessened very largely as a matter of necessity for the accumulation of the previous two weeks has interfered scriously with the disposing of later arrivals. A marked dullness in trade is always experienced on the hay market during the holiday season, but as a general statement, very little complaint can be made at the present time concerning present conditions here. Prices are somewhat better than they were last week, and most handlers of hay look forward to a fairly satisfactory winter's market."

Alfalfa local	9.00@16.00
Tame oat choice	11.00@16.00
Wild oat	10.00@13.00
Wheat and oat	11.00@15.50
Wheat choice	17.00@19.00

Grain.

Wheat No 1	1.67½@1.72½
Barley No 1	1.57½@1.60
Corn small yellow	1.50@1.55
Corn large yellow	1.50@1.55
Oats white	1.60@1.70
Oats red	1.75@1.90

Feed Stuff.

Bran per ton	28.00@30.00
Straw per bale	75@85
Feed cornmeal per ton	36.00@37.50
Cracked corn per ton	37.00@38.00
Rolled barley per ton	35.00@36.00
Oil cake meal per ton	38.50@40.00
Cocoanut cake, per ton	25.00@26.00
Middlings	30.00@32.50

Citrus Market

NEW YORK, Dec. 30.—Nine cars of navels, four cars of lemons and one car of Arizona navels sold today. The market is very strong and higher on navels and lemons. Weather cloudy and unfavorable.

NAVELS—	Avg.
Ocean fy F H Speich & Morgan	2.95
Mountain Lion F H Speich & Mor	2.60
Popular fy F H Speich & Morgan	2.30
Crafton fy Red G GO Ass'n	2.90
Mill Creek xfy Red G GO Ass'n	2.60
Bear and Eagle fy Lindsay Cit As	2.45
Mountain Lion fy FH Speich & Co	2.40
Independent o r Gr Ft Co	2.75
Independent st Gr Ft Co	2.55
W Highland fy High Dis	2.85
W Highland c Highland Dist	2.70
Independent fy Gr Ft Co	2.90
Independent ch Gr Ft Co	2.60
LEMONS—	
Quail xc OK Ft Ex	2.60
Flower xfy GGr Ft Co	2.50
Flower ch Gr Ft Co	2.50
Flower ch Gr Ft Co	2.35
Independent xfy Gr t Co	2.50
Independent ch Gr Ft Co	2.05
Protection fy Ohio Lemon Co	2.85
Buckeye ch Ohio Lemon Co	2.20

PITTSBURG, Dec. 30.—Market is firm on good stock. It is raining.

NAVELS—	
Rialto Girl Gr Ft Co	2.30
Pointer ch ACG Ft Ex	2.20
Maine ch Sparr Ft Co	2.40
Mountain Lion fy FH Speich & Co	2.20
LEMONS—	
Las Fuentas Crocker-Sperry	1.95
Monticito Crocker-Sperry	1.30
NAVELS—	
Highlander xfy High Ft Co	2.30
Cactus xc High Ft Gr	2.20
La Belle st Red MOGA	2.15
Rose xfy Red O G A	2.50
Sequoia fy ST Ft Ex Fullerton	2.25
Manzantia ch ST Ft Ex Fuller	2.00

ST. LOUIS, Dec. 30.—Market is steady. Weather is cool. Five cars sold. Eight on track.

Orangevale	2.25
Red Label ch TC Ft Ex	2.30
Hiawatha ch TC Ft Ex	2.30
LEMONS—	
A. A. A. A. ch A Keen & Son	1.65

PHILADELPHIA, Dec. 30.—Market is advancing. It is raining. Four navels. Two lemons sold.

NAVELS—	
Signal xfy Stewart Ft Co	2.46
Rose xfy Red O G A	2.46
Rook xc Ely-GGilmore Co	1.95
LEMONS—	
Corona Beauty xc QC Ft Ex Cor	2.30
Grove ch QC Ft Ex Corona	2.18

Floridas unchanged on good stock. Six thousand boxes sold today.

BOSTON, Dec. 30.—Market is high on navels and lemons. It is raining. Five cars sold. Two exchange. Six cars on track.

NAVELS—	
Hollywreath fy Cal Cit U	2.50
Royal Knight xfy RH Ft Ex Red	2.80
Golden Orchard Ind Ft Co	2.05
Gold of Ophir xfy Butte Co	3.15
LEMONS—	
Old Golry fy Flagler Ft Co	2.80
Silence xc Falgler Ft Co	2.70

DUTY OF PLANTING FORESTS.

Every man who owns a small ranch should have a timber lot. Every man who owns a large farm should have a relatively larger tract in forest trees. And every man who owns land that is not especially useful for other purposes should make it into woods. To these ends, great and small, the government of the United States, through the forestry service, stands ready to co-operate.

Among the several admirable policies of the present administration for the conservation of the natural resources of the country, the most important, at least from the standpoint of succeeding generations, is the preservation and extension of forest area. At the present rate of devastation there would be comparatively little timber left in a quarter of a century. The country's future welfare is absolutely dependent on its forests, for without them and the protection they give to the soil and to rainfall, all the other resources of the people would have comparatively little value.

But aside from these general inducements to make wood lots and rear forests, it pays the individual. The cost of all kinds of wood, whether for furniture, implements, lumber, posts, ties or other purposes, must go on increasing so long as the visible supply of timber goes on decreasing. And by the time forests now planted would becomc serviceable their value for wood uses would be even greater than it would be now. Wood is always needed on the farm. If a farm is without it, trees should be planted at once, unmindful of the fact that it takes many years to raise a "crop." And especially such land as is not fit for cultivation should be set in trees. When it takes a long time to mature trees, it takes a few years for trees to become a valuable asset. This fact should be borne in mind by those who figure on the market value of their farms.

The planting and rearing of trees is a simple matter. The forestry service is willing and anxious to givc all the assistance in its power. It will even send experts to inspect the soil and suggest the best trees to be planted. It wll send them agin to note the progress of the planting and givc any information that may be needed as to the continuous care of the trees. In order to bring up the wooded arca of this country to where it should be, dependence cannot be put on either the Federal government or the States, for there is not enough government and State land to make sufficient areas or to distribute these areas properly. The proposition is up to the individual land owners.

POPULARITY OF THE EUCALYPTUS.

and the increasing cost of fuel has had a tendency to turn public attention to some source of relief from both these threatening evils. The eucalyptus in its many varieties, seems to offer the greatest hope, and as a result there is a very heavy planting of this species in the State at the present time. There are very many varieties of eucalyptus, some of them exceedingly ornamental and nearly all useful. Chief among them in California are the Red and Blue gums. These are very fast growing trees, start readily from seed, require little attention and soon give returns. They are both excellent for timber, and for fuel are second only to coal. Where windbreaks are necessary there is no better tree for the purpose, and they can be often topped and will furnish a supply of fuel. In the Southern States, as in California, where railroads are already feeling the shortage of timber, railroad companies are setting out large tracts of eucalyptus for a futurc supply of ties. Where they will grow, they are the best trees for forestry purposes, for shade, or windbreaks and for ornamental purposes, and are to be recommended to all who have land upon which they can be grown. All the eucalypts are very susceptible to frost and will not do in the Eastern States, but in any part of California outside of the mountain counties they will do well, and in this fact California has another great advantage.

LIGHT ON THE TELEPHONE QUESTION.

It is but a matter of a short time when the telephone will be in every farm house in the country, because farmers everywhere realize the great value of having one.

There are a number of different makes on the market and farmers are apt to be confused as to which particular make they should buy.

We have been particularly interested in one made by the Stromberg-Carlson Telephone Mfg. Co. of Rochester, N. Y. and Chicago, Ill.

This concern is one of the largest of its kind in the country, and for a number of years they have been making a specialty of telephones for the farmer.

The telephones they make justly deserve their great popularity, and any one thinking of installing a telephone can do no better than to get one of the Stromberg-Carlson Co.'s make. These telephones are reliable in all kinds of weather, and their uses are too numerous to mention here, but this company issued several neat books about telephones, telephone lines and equipments.

If you want to know more about telephones and if you want to learn how to organize a telephone system these books will help you very much. They are free if you mention this paper.

You and every other enterprising farmer who wants to be up-to-date in everything should send for these books at once.

ABC AN XYZ OF BEE CULTURE.

The A. J. Root Company published at Medina, O., by the authors. This is the well-known A B C of Bee Culture, which is so familiar to all beekeepers who keep bees by modern methods. The old work has been largely rewritten and added to until it is now a book of nearly 600 large pages. It still retains the great feature of the old work in being very practical and easily understood. It is so very popular that 115,000 copies have been printed and it continues to sell at a great rate. It is splendidly illustrated, and fully indexed to make it suit the busy man. It is well printed on smooth paper. Withal, it is thoroughly American from start to finish, and yet it sells well in foreign countries, showing that merit will win everywhere. No beekeeper can very well do without the A BC. Price (cloth) $1.50, postpaid.

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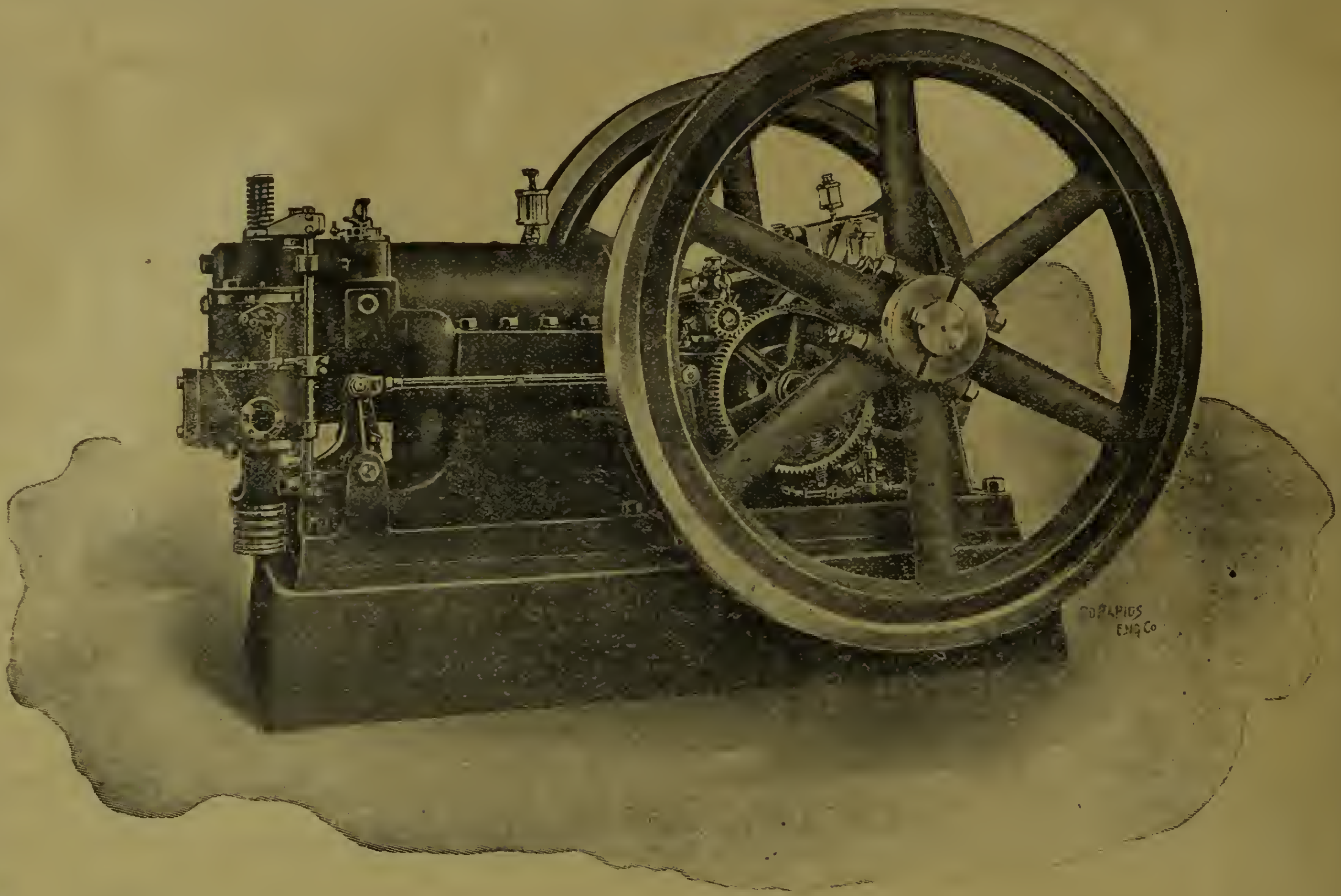

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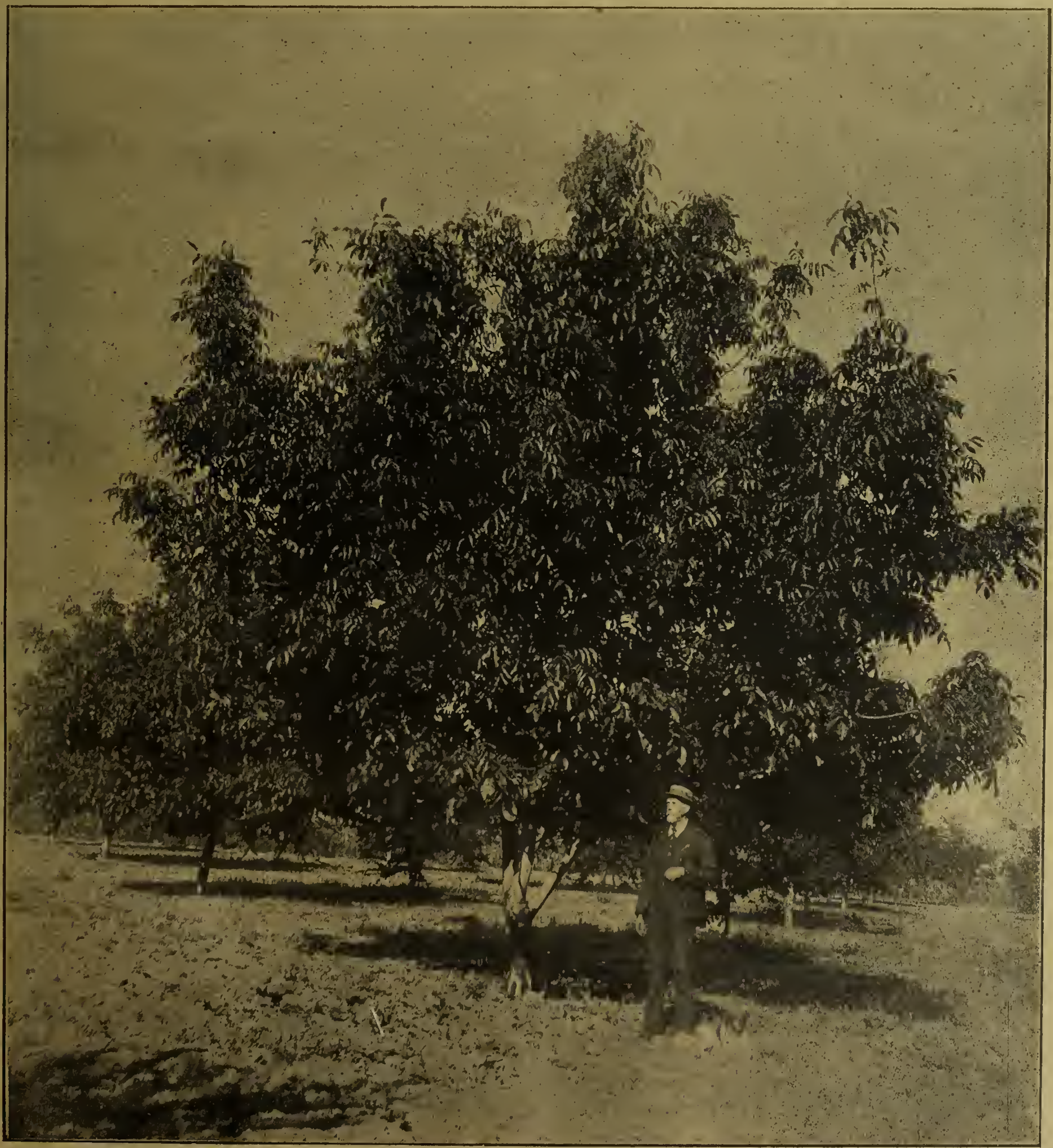
DECIDUOUS FRUIT NUMBER

California Cultivator

Los Angeles January 9, 1908 San Francisco

Placentia Perfection Walnut Tree

A Grafted California Walnut Tree in the Grove of J. B. Neff at Anaheim. Photo Taken at Age of Seven Years from Planting. Graft at Time of Planting Being Two and One-Half Feet High.



> ***"Jock, when ye hae naething else to do, ye may be aye sticking in a tree; it will be growing, Jock, when ye're sleeping."***
>
> —Sir Walter Scott, in The Heart of Midlothian.

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Vines
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Our twenty-five years experience back of our nursery business, our immense nurseries, situated in the most fertile and favorable section of California; our system of growing and caring for all our trees, and the superiority of the stocks from which we propagate are points you should consider when buying. These are some of the reasons why Roeding's True Trees are always the best. Never buy cheap trees for such purchases are usually a great loss rather than a saving. We grow our trees true to name and all are strong and healthy with well developed roots.

Our nurseries comprise over 1500 acres and we have the largest and best stock on the Coast; everything in the form of trees, citrus, deciduous, ornamental, as well as a very extensive stock of roses, palms, etc.

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Santa Rosa Plum **Rutland Plumcot** **Gaviota Plum**
Formosa Plum **Vesuvius Plum** **Royal and Paradox Walnuts**

We have published a beautifully illustrated booklet in colors, telling all about them, which we send for 10 cents to all who are interested. Write for it.

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We have all of the leading table and wine varieties, either on their own roots, or grafted on Phylloxera Resistent roots. We are the largest growers of vines and can furnish you with any quantity.

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Our stock is the best we have ever grown, and can be supplied in either tree or bush form. All of our roses are field grown thus insuring plants of strong constitution and robust growth.

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(Vrooman Strain)

Walnut orchards are very profitable, and California is destined to become a great nut producing State. Of the many kinds of walnuts there are none more advisable to plant than the Franquette (Vrooman Strain). We have several thousand fine grafted trees ready for planting. Also such varieties as Chaberte, Mayette, Parisienne and other French types grafted on California Black Walnut root, as well as the Plancentia Perfection, the popular variety in Southern California in trees grafted on California Black Walnut and on their own roots.

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P. O. Box 14, Fresno, California

California Cultivator

ol. XXX—No. 2 Los Angeles, California, Thursday, January 9, 1908 Subscription $1 a Year

Deciduous Fruits in Northern California

A Review of Deciduous Conditions in the North by John Isaac, Secretary to the State Commissioner of Horticulture. Greatest Industry of the State. Most Conditions Ideal

California is essentially a State of specialties, and we find different sections devoted to different fruits. Southern California, for inance, is known over the whole world for its trus products above all else, while Fresno is own for raisins, Santa Clara for prunes, etc. does not follow that other fruits than these will t do equally well in these sections, but it so ppens that they have got started in these speclities and continue along these lines. Citrus uits grow over the greater part of Northern Calrnia and, in many parts, do wonderfully well, t we regard the Northern section as rather the me of decidious fruits, for it is here that the eat deciduous fruit output of the State is proced, and from here that the great annual shipents of fresh and dried and canned fruits are ade to all parts of the world. But in the deuous fruit sections of the northern counties, we d specialties prevailing and different fruits are und in the different sections here. Sutter coun- is largely devoted to the peach, the cherry is und in its glory in Alameda and Santa Clara unties, the Tokay grape monopolizes the couny in southern Sacramento and northern San aquin counties. This segregation of the different fruits has come about largely from the exrience of early growers, who have demonrated that certain varieties are reliable and profble in certain sections. It must not be inferred m this that no other fruits than those which edominate are grown in the sections mentioned, t these are the favorites with the orchardists d seem to be the most certain money getters.

ght Thousand Cars.

The importance of our deciduous fruit industry ll be appreciated when we consider that of esh fruits alone, fruits for consumption on the bles of the East, we export annually nearly eight ousand car loads. In his report to the late uit Growers' Convention, Alden Anderson, esident of the California Fruit Distributors, ves the following figures of shipments made rough his agency during the past two seasons:

	1906	1907
erries....	150	98
ricots..	16	71
aches........	584	699
ums and prunes....	1220	1039
ars..........	1513	1039
ples........	* 748	**1067
scellaneous......	22	18
apes......	2052	3460

**Shipment to December 20th.
*Shipment to December 29th.

eatest In State.

It will be noted that, in spite of the fact that e past season has been a very poor one, most of e early peaches having been a failure, the aprit crop being very light and cherries below avere, the shipments of fresh fruit have been heav- than in 1906. This has been due to the unusuy good prices received in the Eastern market, d indicates a smaller pack of canned and dried it than usual. When to the shipments of fresh its are added the canned and dried fruits, unes and raisins, and other forms in which deuous fruits are marketed, it will be understood t deciduous growing fruits is one of the greatt industries of the State and, added to the cit- output, brings more wealth into California n any other productive industry.

Peaches are grown very largely for canneries, the great bulk of the crop is annually divert- to these concerns. In the Sacramento valley very large areas are devoted to this fruit. The favorites are the Muir, a large perfect freestone and Phillips' Cling. After these come the Salway, Lovell and Early Crawford, all good peaches. The clings are the favorite for canning owing to their solid flesh, which retains its form in the cans. Clings also ship well as they stand up in shipping better than freestones and reach the market in better shape.

Ideal Conditions.

The foothill and higher valley lands of the Sacramento valley afford ideal conditions for the peach. It is a fruit that demands a loose, sandy, soil, well drained and warm. It will not give its best results on cold adobe land, and such soil should be avoided in the setting out of a peach orchard. A location with a south-western exposure is ideal for a peach orchard, for it is a fruit that delights in the genial rays of the warm afternoon sun. Unless the soil is very retentive of moisture and is naturally damp, it is absolutely necessary that water be had for irrigating in our climate where there is little if any rainfall during the growing period of the fruit.

Peaches at one time were considered as a never failing crop in California, and every year brought certain returns. But of late years there have been several seasons, if not of failure, at least of shortage in the yield. This has been ascribed in the peach growing sections to the fact that there have been late and heavy rains during the blooming time and that in consequence, the pollen has been washed from the bloom and imperfect pollenation has resulted, causing the imperfect setting of the fruit. This has been especially the case with the early varieties, which for the past two years have given very poor returns.

The Blight.

A most serious disease of the peach, too, has appeared during the past three years in the peach sections. This is the peach blight. There have been heavy losses sustained from this disease, although it is now pretty well known how to handle it. The peach blight is in no way similar. to the pear blight, which wrought such devastation in the State, being a fungus disease, and easily reached, while the pear blight is a bacterial disease, working in the sap-wood of the attacked tree and completely out of reach. The peach blight has been known in the State for the past quarter of a century, appearing with greater virulence in some seasons than in others, but it now appears to have got a permanent foothold in many of our best peach sections and for the past three years has greatly reduced the output of fruit therein. Being a fungus disease, it is easily handled if taken in the proper season and treated in the proper way. It has been demonstrated that the spores which germinate and start a new cycle of the disease are deposited on the twigs and branches of the affected tree during the summer months. These are dormant but ready to germinate so soon as moisture and warmth are applied. These conditions are furnished by our earliest rains, and as soon as these come the minute spores which are lodged on the trees send out fine rootlets and become permanently attached. They are now prepared for their destructive work, and as soon as the tree puts forth its new growth of foliage early in the spring they gradually spread over it, the blight is there for the season and all hope of profit from the season's crop is gone. Now, by spraying with the Bordeaux mixture early in the season, while the spores of the blight fungus are still dormant, these can be killed and, the germs being dead, there is no danger from the disease. If left, however, until the fine roots have penetrated the wood, it is almost impossible to kill them, and hence late spraying has proven worthless.

Cherries.

Cherries, as stated above, seem to attain their greatest perfection in Alameda and Santa Clara counties; at least, it is here that the bulk of the cherry crop of California is produced. It is not, however, confined to these sections, for cherries are grown all over California where the summer heat is not too great. Vacaville and Winters are celebrated for their early fruit and it is from here that the greater part of the early shipments of cherries are sent to market; these sections are followed closely by the Placer county orchards, the fruit from these places being all in the market before the crop of Alameda and Santa Clara is ready for picking. The fruit from the latter places is largely consumed by the canneries and furnishes the greater part of the cherry pack put up for shipment.

The cherry requires a somewhat similar soil to the peach, although it will do well on heavier soil than the peach will stand. A deep, sandy loam is ideal, and the cooler valleys, those along the coast, supply the best climate, although in the higher mountain valleys good returns are had from this fruit. The best soil for the cherry is a deep loam, naturally damp, not wet, with the moisture equally distributed, avoiding dry, sandy and gravelly soils.

The cherry is subject to very many pests and diseases, and one of the greatest pests is the gopher. For some reason young cherry wood has a great attraction to this troublesome rodent, and often the first indication given of its presence is the death of the tree. These pests work out of sight, and one night is sufficient for one of them to destroy a tree that has taken years to grow. No delay should be admitted in running down these pests as soon as there is any sign of them in the orchard.

The most serious disease to which the cherry is subject is gumming. In this the sap is forced through the bark and congeals on the surface in globules of varying size, sometimes forming round masses of considerable size. These should be removed, otherwise they are liable to induce decay of the bark and the wood beneath, and so prove injurious to the tree. Where gumming manifests itself, the best treatment, so far as known, is to cut away the outer bark with a sharp knife and cover the wound with a varnish of shellac and alcohol. It often occurs that gum will accumulate in the crotch formed by the junction of two limbs. In such a case it should be cleaned out, or it will form a receptacle for decaying organic matter, which will cause the tree to decay at the point of lodgment. One of the worst insect pests affecting the cherry is the cherry slug (Eriacampa cerasi,) which, by the way, is not a slug at all, but the larva of a small saw fly. This appears in large numbers frequently during the summer and eats away the fleshy parts of the leaves, often almost defoliating the tree. A spray of Paris green will destroy them, or a more simply remedy is fine road dust

Continued on Page 41.

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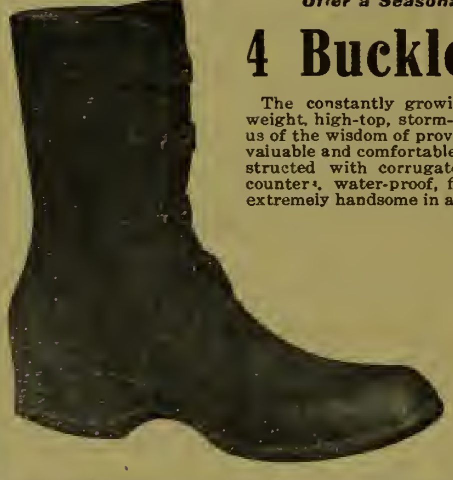

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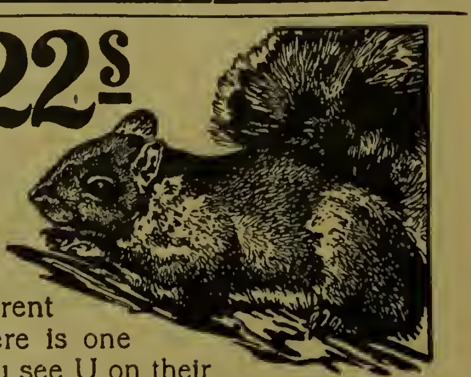

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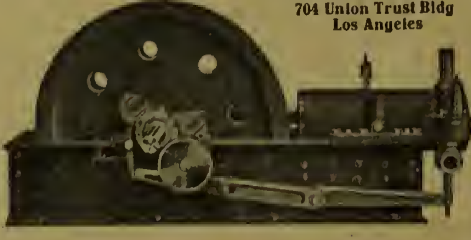


When writing advertisers, mention Cultivator.

Culture of the Walnut

Written especially for the California Cultivator.

BY J. B. NEFF, ANAHEIM.

The Farmers' Institute conductor for Southern California, J. B. Neff, is also a large walnut and alfalfa grower in Orange county. Mr. Neff has nearly 7 acres near Anaheim on which are some of the finest grafted softshells in the State. The cut on first page of this issue is one of Mr. Neff's seven-year-olds, which gives an idea of the thrifty care of his place. Mr. Neff is too busy a man to answer questions regarding walnuts by mail. He tells us that his mail calls for an immense number of mail answers and he simply cannot give the time to do this. Address queries to Cultivator.—Ed.

WHEN walnuts are spoken of in California, it is always understood that softshell walnuts are meant, and softshell walnuts are becoming known in the markets of the United States as "California walnuts." This being a mark of excellence everywhere.

California Walnuts.

These were formerly known as English walnuts, probably because of having been marketed by English merchants when all walnuts were imported, but likely originated in Persia or Asia Minor, though it has been found native over a wide area, including the mountains of Greece, of Armenia, of Afghanistan and the northwest Himalayas, and is also found in Japan. Walnuts from Persia were brought to Rome by merchants and from there distributed over Europe.

There are no records to show when the first walnuts were planted in California, but the best authorities say that it was about 1769 and that the planting was done by the Mission fathers. Very few trees were planted for nearly one hundred years after the first planting. About the year 1843 a few trees were planted at San Diego by J. J. Warner, and F. E. Kellogg, sr., planted a small orchard at Calistoga, in the upper part of Napa valley, in 1848. Mr. J. R. Congdon planted an orchard of hardshells at Capistrano in 1869. H. K. Snow and P. T. Adams planted the first walnut grove in the vicinity of Tustin and Santa Ana in 1879. These were hardshells and the planting was an orchard of eight acres, which was characterized as a rash adventure by the neighbors, but the soundness of their judgment is shown by the fact that the orchard is one of the best producers in the valley after more than one-third of a century has passed. A year later Snow and Adams heard of softshell walnuts grown by Joseph Sexton, of Santa Barbara, and got some nuts to plant in nursery. They planted their first softshell orchard in 1883.

The Soft Shell.

The softshell walnut originated in Santa Barbara county and first came into notice in 1880. It is supposed to have been the result of cross pollination between hardshell and papershell walnuts. Softshell walnuts soon became popular and have been planted exclusively for the past twenty years under the name of Santa Barbara Softshells.

Mostly In the South.

There are but few walnuts groves of commercial importance north of Santa Barbara county, though there are some small plantings through the Sacramento valley and several acres planted in the Santa Clara valley and in Sonoma county.

The walnuts trees of the northern part of the State are mostly of French varieties, and largely Franquette, as it has proven the most productive in that district, though not equally successful in the southern counties.

Grafts and Buds.

Large plantings of grafted and budded walnuts have been mad within the last ten years in th southern counties, and almost th entire planting of the northern cou ties are grafted trees. The varie mostly propagated in the south known as the Plancentia Perfectio and originated in the Placentia dis trict of Orange county about eigh teen years ago. This is a vigorou upright growing tree which produce large, smooth nuts that hull free and are well filled with white mea The stocks used for grafting an budding have been largely seedlin softshell in the south, while th used in the north has been most the native black walnut, and ver frequently these are not grafted un ten to fifteen years old.

And the Blight Came.

A blight of both nuts and the gree twigs began to attract attentio about eight years ago; the Departme of Agriculture at once instituted vestigations which were supplemen ed, and are now being carried on the University of California, b which have not as yet resulted any preventive of the disease that of commercial value.

It has been found that there ar trees which are resistant to th blight and which produce large cro under the same conditions that caus other trees adjoining them to lo the greater part of their crop.

Since this fact has become known a series of investigations have bee made with a view of getting a tre that will be resistant to a great de gree, and at the same time produ large crops of desirable walnut from which to propagate by graftin or budding. Several such trees hav been found and top grafting on ol trees will be done next spring on scale large enough to demonstrate practicability.

Fertilization an Advantage.

It has been determined that heav fertilization will produce large crops, even where blight is seriou and that by this means productio can be increased until the orcha may be gradually changed to th more resistant varieties, by t grafting or other means.

Walnut groves have not had th care that has been given to orange neither in selection of varieties no in culture and fertilization of th soil, and it is possible that the bligh may cause growers to use bett methods of culture, as well as sele tion of varieties, and in the e be the means of largely increasin the production and value of the wa nut groves.

We Can Afford Only the Best.

The largest annual production o walnuts was 8000 tons, but this ha fallen off considerably until now th production is from 6500 tons to 750 tons per year. The average produc tion per acre is about 800 pound but groves that are well cultivate and fertilized produce from 1500 t 2000 pounds per acre. Trees tha produce 200 pounds per year are no uncommon, so it can readily be see that if only the best trees are use in propagating, either by budding o grafting, the yield of walnut grove can be greatly increased withou much additional expense, and th profits will be correspondingly grea er.

The Future of the Fig

Written especially for the California Cultivator.

BY GEORGE C. ROEDING, FRESNO.

When the fig industry shall have become one of the greatest of our fruit industries, Geo. C. Roeding, of Fresno, will make good his predictions as to its possibilities, and he will have credit for being one of its chief promoters in its infancy. To him more than any other one, belongs the credit of securing that little helper—Blostophaga—which has made possible the true fig of commerce. Mr. Roeding not only worked hard on his trip to Asia Minor after this insect, but his energies since the return from that trip have been given to place the fig in the front rank of our fruits.—Ed.

THE success of an enterprise, whether it be fruit growing or anything else, is dependent entirely on the right start. Having decided to engage in a certain line of this work, there are several important points to be taken into consideration: soil, climatic conditions and marketing without too great an expense, are matters which should be carefully considered before engaging in the industry of growing fruit for profit. To live under "your own vine and fig tree" is an attractive phrase, and there is much in it which appeals to the man seeking an investment and a home. It is safe to say without much fear of contradiction, that no State in the Union enjoys such a diversity of climates, or opens such a wide avenue for investment, whether it be agriculture, viticulture or horticulture, as California.

The possibilities of this great State have not been half told, and even those of us who are enthusiastic about its vast resources have only a faint conception of what wonderful developments will be made in the business of fruit growing in California in the next fifty years. Young as we are in this line of work, we already stand at the head, and California methods of doing things are copied in all parts of the world. Many people coming to California expecting to engage in the fruit business have met with disappointment and returned to their homes in the East with hard luck stories of California. Their troubles are, in a measure, largely due to their expecting too much to begin with; and, secondly, (and this has often been the case) to listening to the advice of some over-solicitous friend who has land to sell, and has little regard for the future in store for the tenderfoot who bought it. There is just as much good land to be had in California today as twenty years ago, and it is safe to say there is more, for much of the land which was then thought to be worthless has been brought into the highest state of cultivation, as a result of the remarkable development made in our irrigating systems.

As has been previously stated, all varieties of fruits find congenial conditions in various sections of California on acount of the great diversity of climates. Prunes have found most favorable conditions in the Santa Clara Valley, and in some of the northern coast counties; raisins of the highest grade are grown around Fresno, and the name "Raisin Center" has become indelibly fixed on this prosperous city. It must not be inferred from the above remarks that these fruits and no others can be grown in the localities named, for that would be a mistake. Attention is merely called to these places to illustrate that from a commercial standpoint certain localities are better adapted than others to marketing a particular variety of fruit. Stress must be laid on the fact that the variety of fruit grown may have a decided influence in the ultimate success or failure of an industry. In nothing has this been so amply illustrated as in the fig business.

The Fig in America.

No fruit has appealed more to the grower than the fig. Easy of culture, adapting itself to such a variety of soils, combined with the fact that the expense of harvesting is very light as compared with many other varieties of fruits. But in spite of all this, the industry has languished. Naturally the great desire of horticulturists interested in figs is to produce a fruit equal in flavor to the far-famed Smyrna figs from Asia Minor.

The White Adriatic fig, a Dalmatian sort, was very extensively planted from 1884 to 1890 in all sections of California, and even in Arizona and Florida. When the trees came into bearing and the fruit was found to be inferior to the imported figs, no matter how processed, growers finally concluded that figs could not be grown here, conditions apparently not being favorable for their successful culture. Nevertheless a fair trade has been built up in Adriatic figs. The shipments are in the neighborhood of 2500 tons annually.

The Smyrna type of figs differs from all others, for unless the female flowers of this fig are fertilized by the pollen of the Caprifigs, the figs shrivel up and drop to the ground when one-third grown. In other varieties of fruits, in which the flowers are exposed, any ordinary insect can convey the pollen from the male to the female organ, but in the fig all the flowers are enclosed in a receptacle, and it is only through the agency of the little insect or wasp, Blastophaga grossorum, which makes its home in the Caprifig, that the pollination of the flowers of the edible figs can take place. The Caprifig trees produce a succession of crops during the season and for every crop of figs there is a new generation of insects. The last crop remains on the trees all winter, the wasp remaining during this period of inactivity in the larvae form. The Smyrna figs are in the receptive stage in June, and the little wasp forces its way through the almost closed orifice of the fig, in many cases breaking off its wings in its eagerness to make an entrance. It crawls around in the fig, passing over the numerous female flowers, trying to find a place to deposit its eggs. The flowers of this fig are so constructed that it can not do so. The insect, although prevented from carrying out its object, proves a benefit to mankind for every fig entered matures into a luscious fruit with fertile seeds. A few days after an insect has entered, the fig commences to develop and expand, assuming a bright, healthy and vigorous appearance, while the figs which the insect has not penetrated have a sickly, yellowish green color and soon drop to the ground. The insect, after performing its function, leave the fig and dies.

Ripening and Curing.

The Smyrna figs commence to ripen from the middle to the latter part of August, and continue until October 1.

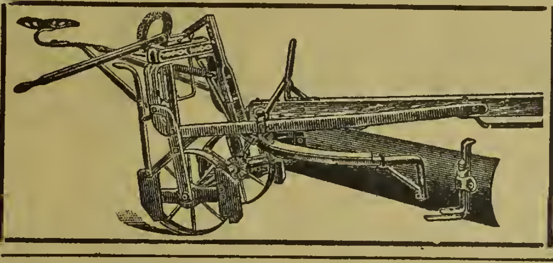
Continued on Page 53

The One-Man Road Machine

Easy to guide; strong, compact and easy adaptable to every condition demanded. It needs but one man and two horses to operate it. Notice the "no skid" rudders on the wheels. They are raised in the picture; when lowered they guide the machine strait ahead. The moldboard is six feet long. Has adjustable shoes shown at ends of moldboard to gage depth to which moldboard should cut. It's a very desirable machine for road-building in city of village. It makes good roads and keeps them so. Although made of steel and mallable iron, stlill it weighs only 600 pounds. The

20th Century Grader

saves time of three men and two extra horses. It is easy on the horses. Has blade in front of wheels. Moldboard reversible. Machine turns in 6 ft. circle. Built for road-grading, Ditching, Land Leveling, Foundation-digging,



For Irrigation, Canal Building Etc.

The price is lower than most such machines. We send it on free trial. Write us for our handsome booklet., "Delightful Roads." It's free and tells you all about the 20th Century.

The White City Grader Company Box 26, White City Kansas

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George B. Warner's

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Grower and Dealer in Citrus and Deciduous Trees of all standard varieties

Soft Shell Walnut Trees, 1, 2 and 3 years old. Grafted Placentia on Native Black Walnut Root. Street and Ornamental Trees, Palms, Dracaenas, Blue, Red and Sugar Gums (large stock.) Write for prices.

Sales Yard—Corner Sixth and Main
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Santa Ana, California

Phone—S. S. Red 92

Fruit Trees

Thousands of dollars saved by farmers by patronizing us. 50,000 Lob Ingir Smyrna Fig trees, 4 to 6 ft. in lots of 100 at $12.50; 500 and up at $100.00 per 1000.

We won the Gold Medal at the Lewis & Clark Exposition. This is the world famed Fig of commerce.

We have a large stock of Bartlett Pears, Royal Apricots, Orange and Lemon trees, as well as other nursery stock.

Bed rock prices. Send in list of wants. Address

Maywood Colony Nursery, Corning, Cal.
W. Herbert Samson, Prop.

Trees That Grow and Bear Fruit

Southern Grown Trees are best. Our trees are thoroughly dormant and acclimated to this southern country. Largest assortment of nursery stock in Southern California. Write us for price list; it is free.

Fruit Trees Nut Trees Ornamental Trees Roses a Specialty

Orange County Nursery and Land Company
Fullerton, California

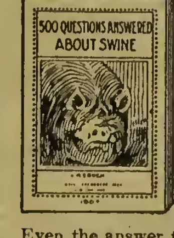
Hanford Nursery **Has for the Season of 1908**

The finest grade of the leading kinds of Peaches,
Apricots and Muscat Rooted Vines to be had.

J. W. Bairstow, Prop. **Hanford, Cal.**

500 HOG QUESTIONS ANSWERED

A Copy of the Latest Authoritative Veterinary Swine Book. "Five Hundred Questions Answered ABOUT SWINE," Is Almost Certain Hog Insurance.



This latest Manual for Hog Breeders and Feeders, just published, actually contains answers to 526 live questions, which were really asked by Hog Breeders within the past five years.

The questions relate to Breeding, Mating, the Choice of Breeds' Feeding, Fattening, Management, Diseases, etc., of Swine. The questions and answers are carefully arranged and the complete index enables one to find at a glance the answer to the question he has in mind.

The Veterinary Department is so complete that a copy of this book in the hands of a breeder will pay for itself many times over in saving one pig.

INDISPENSABLE TO EVERY HOG RAISER.

The answers to questions on Feeding contain information which will put enough extra pounds on one pig to pay for a dozen books. Multiply this by the number of hogs you own and figure out what the book is worth to you.

Even the answer to just one of the 526 questions would cost you nearly 25 cents in time, letter writting, and postage stamps, besides the loss you might stand while waiting for the answer.

The information and answers are wholly dependable and come from the practical experience of the largest Swine Breeders and Feeders in the West and the most authoritative veterinarians.

THIS BOOK WILL BE SENT FREE ON REQUEST

To readers of the ***CULTIVATOR*** who send at the same time their subscription for the coming year. Good only to those paying in advance See particulars on Editorial Page under "Shop Talk."

Your Eastern Trip

May Be Arranged So That
You May Travel By Way of

New Orleans and the Sunset Route

San Francisco and the Ogden Route

Portland and the Shasta Route

Enjoying the balmy Air of the South or the cool and bracing air of the North. Personally conducted excursions every day via all routes without change to principal Eastern points.

Southern Pacific

SOUTHERN PACIFIC

The Ornamental Garden

THE AUSTRALIAN NUT.

THE Australian nut, Macadamia ternifolia, is cultivated somewhat in Southern California, and is a beautiful tree. It bears in about seven years from the seed and is worthy of more general planting.

A Cultivator correspondent, Mr. B. Harrison, of Barringbar, New South Wales writes us as follows: regarding this tree in its native haunts:

"This graceful, evergreen nut tree, which is not cultivated to the extent it should be, is found growing on rich alluvial and volcanic soils, bordering the rivers or creeks on the coast of Southern Queensland and the Northeastern portion of New South Wales. In its native or wild state it frequently attains the height of 50 feet, and it is of straggling growth. The trunk barely exceeds more than one foot in diameter. When the tree is cultivated, not only will the trunk be furnished with branches nearly to the ground, but it will form a beautiful unbrageous head. Its leaves are arranged in whorls of three or four, and are from five to two inches long, and bordered with sharp, thorny teeth, but sometimes they are entire.

"The small, white flowers are arranged in long racemes, and these are succeeded by nearly spherical fruit, varying slightly in size, but often about an inch in diameter. Each fruit contains one smooth, globular, or two half round nuts, which enclose a remarkably rich edible kernel of excellent flavor, resembling, but superior to, the filbert. The nuts are very hard, and it requires some force to break them. It is a very prolific bearing tree, and although I cannot state the yield, the number of nuts on the racemes vary from three to fourteen, and they keep well.

"They can be shipped in a good state of preservation to any part of the world. The tree requires about seven years to bear from seed, but the age varies in different situations. It seems to adapt itself to almost any kind of soil provided that it is not too stiff and is of good depth, and well drained.

"The cultivation of this fruit tree should prove a lucrative occupation to many land owners in California and the southern States, as there is an unlimited market for the disposal of the fruit, and there is not much competition. The largest area cultivated in Australia is only about one acre."—B. Harrison, Burringbar.

WILLOWS FOR BASKETS.

A truly infant industry in this country is the growing of basket willows. This is one kind of tree which can easily be grown in time to meet the demand. Osiers for making baskets have been heretofore all imported from Europe, but experiments by the Forest Service show that they can be successfully grown in this country as a farm crop. The manufacture of baskets is by no means so large as might be, and the increasing scarcity of wood for boxes may cause a greater demand hereafter for baskets.

A HINT ON EUCALYPTUS.

I would like to give the readers of your valuable paper a little hint on the culture of the eucalyptus, the tree that promises so much for the prosperity of California. I have adopted a new system of planting that is giving wonderful results in growth of trees with very little water.

The plan is as follows: Plow the ground soon as possible to give soil benefit of the winter rains, and just before planting plow again and in a manner that will provide a wide, open furrow for each row of trees. Now, stir the soil in bottom of this furrow with a sharp tooth cultivator. Follow this with the tree planting, and as the trees grow gradually work the earth to the trees. By midsummer have the ground made smooth and level.

This gives the tree a deep root system and makes the eucalyptus tree practically drouth-resisting. It also prevents trees from blowing over by high winds or being washed out by floods.—Geo. B. Southard, Redlands.

HOPE FOR THE PARCELS POST.

There has been a strong movement among our farm readers during the last two years for a parcels post. Postmaster-General Meyers has gone on record as announcing that he will advise the enactment of a parcels post law by the next Congress.

The establishment of a parcels post will greatly aid the farmers in sending and receiving small parcels through the mails. With our rural free delivery our parcels post will be a valuable acquisition to our postal regulations.

Of course the express companies to whom is paid outrageous tariffs on parcels will be expected to do all in their power to kill the bill. While these concerns have been successful in the past in preventing this much needed legislation the public sentiment in favor of parcels post has grown rapidly.

With the Postmaster-General favoring the measure it would seem as though the next Congress would pass a parcels post bill. Our lawmakers need urging in order that we may get needed legislation. Why not help in taking the initiative in this important matter that is of vital concern to the farmers?—Successful Farming.

A COMPLETE SPRAYING OUTFIT.

The Olds' Spraying Outfit is said to be a most complete and effective machine for ridding fruit trees of the pests of fungous diseases and insects.

No discovery in agriculture has proven so important and valuable to the farmer as the spraying of fruit trees, vegetables and nearly every sort of farm produce, to kill off bugs, worms and other pests and diseases injurious to their growth.

The effective Olds Outfit is handled by the Compressed Air Machinery Co., 34-40 Jessie street, San Francisco. The firm issues a bulletin regarding spraying, with spraying formula, and gives a list of the machines handled. It is of interest to orchardists.

Progressive grange at Healdsburg is increasing its membership, and showing every indication of a lively interest in matters of the farm. Last Saturday an all-day session was held, at which there was a harvest feast and degree work.

R. J. Hunter, of Colony No. 1, at Gridley brings in the measurement of a Himalaya Giant blackberry vine on his place which was set out last spring. At the base the vine measures nine inches in circumference.—Herald.

The Superlative Raspberry

Too much cannot be said in favor of the Superlative. It is a red, sweet berry three times as large as any other Raspberry, to my knowledge. It is a continuous cropper from May to November. I counted on one cane 472 berries of different sizes.

Just think of a sweet raspberry as large as a Red Logan. Do you know what that means? It means for years to come heavy demand for fruit and plants. Every nurseryman will want a big supply. It is a stiff, upright grower and it throws its young plants from the roots called suckers. The plants should be planted in rows 3 feet apart in the row, and the rows 5 feet apart. A good mulching in the spring will help them crop heavier all summer. Plants planted now will give you a nice lot of fruit this coming summer. In order to get the true Superlative I imported 10,000 plants from the producer. I warrant my stock to be true to name. See cut of berry in The California Cultivator, Dec. 5th.

Now is the time to plant. I warrant every thing I sell. Also guarantee safe arrival of plants, and if not satisfactory on arrival, return at my expense and money will be returned at once. Send for free Catalogue.

A. Mitting

17 to 23 Kennon St. Santa Cruz, Cal.

Largest National Bank West of Denver and South of San Francisco

First National Bank

of Los Angeles, California

United States Depository for Government Funds

TOTAL RESOURCES, $20,000,000

ADDITIONAL ASSETS—One Million Five Hundred Thousand Dollars invested in the stock of the Los Angeles Trust Company and the Metropolitan Bank and Trust Co., and held by the officers of the First National Bank, as Trustees, in the interest of the shareholders of that Bank.

We are prepared to extend to the small depositor the same personal and careful attention that we do to our largest accounts.

Security Savings Bank

AND

Southern California Savings Bank

HAVE CONSOLIDATED and removed from the former locations at Spring and Fourth Streets to the Security Bldg., Spring and Fifth Sts., Los Angeles

The Safe Deposit Departments will temporarily remain in their present locations, owing to unavoidable delays in completing construction of the new vaults.

Nitrate of Soda

Large or small lots. Send for circular and prices.

R. A. HOLCOMBE & CO.
50 Clay Street, San Francisco, Cal.

100 Pounds of Grapes to the Vine

Raised by Ex-Postmaster Rush Stevens of Sacramento on his ranch with

Tom Lewis' Fertilizer

My Fertilizer is lower in price than other fertilizers and guaranteed to give results. I have hundreds of testimoni ls. Send for circular and prices.

Tom Lewis, 1916-1918 10th St., Sacramento, Cal.

Developing a Higher Grade of Rhubarb

Mr. Wagner, of Pasadena, Still Working to Produce a Higher Grade of Rhubarb, While He Maintains That the Old "Crimson Winter" is Making Good Every Day

WHILE at the State Fair last fall the writer accidently ran on to a booth presided over by the genial J. B. Wagner, the Pasadena rhubarb specialist. That a pleasant half hour was spent in conversation with him goes without saying. Pleasant, because, first Mr. Wagner is one of those genial fellows whom it is a pleasure to meet under any circumstances; next because he is an enthusiast, and an enthuiast who is not a crank, has a fund of information, and usually a pleasing way of giving the information, which makes him a pleasing conversationalist.

Mr. Wagner's enthusiasm is largely centered upon rhubarb which, for seven years, has been a matter of great innterest to him in every way, and at every point, from the pollinizing, seed growing, plant production, field growing and even to cooking into sauce and making into pies. His first work was done from some of the choicest plants which he could secure from the originator, Mr. Luther Burbank, which was of such merit as to have commanded attention, particularly from all in the State of California, as well as in nearly all sections where gardening is engaged in. But in this State it has been so exceedingly successful that it not only attracted much attention, but has been planted by the hundreds of acres.

But not content with the great product which Mr. Burbank produced, Mr. Wagner at once took up the matter of improvement by hybridizing, and to that end secured some fifty other varieties from Australia and Asiatic countries. None of these fifty varieties were equal to the Crimson Winter, and were not expected to be by Mr. Wagner, but some of them had qualities which he wished incorporated with all the good qualities possessed by the Crimson Winter without losing any of the good qualities. How he did that is immaterial for the purposes for this article; suffice to say, that indefatigable work and patience succeeded, though to a certain extent we doubt not Mr. Wagner is not satisfied, or, rather, has not reached the perfection at which he has aimed. In fact, this he probably never will accomplish, for he is a man with high ideals and will always continue to perfect this favorite plant of his.

Making Good.

We recently had the pleasure of a short interview with Mr. Wagner in his beautiful home amongst his loved plants, and he favored us with some facts regarding the winter rhubarb. He said that first and foremost he wanted to impress upon the readers of the Cultivator that it has been conclusively proved that Crimson Winter Rhubarb is making good and will continue to do so. He meant by this, not only in regard to its high quality as a food, but because of the fact that the public are realizing this to an extent that they are paying high prices, and consequently it is a great success financially to everyone who has taken up its culture.

This assurance he has not only from the California standpoint, that is, the producers' and the California market men's claims, but because of an extended trip last summer covering much of the territory between the Pacific and the Atlantic, and the lakes and the gulf. On this trip he traveled over 12,000 miles and visited 33 different States and all the principal cities in the East. In each of these cities he went to the markets and secured all the information possible as to the demands of the markets for rhubarb. During July and August rhubarb usually sold at about 3½ cents per pound, while the out-of-season rhubarb, that is, that brought in earlier in the springtime, readily brought 13 to 16 cents per pound "The Eastern outlook is much better than ever before, as is evidenced by my visit in rhubarb growing sections of the New England States where they have hundreds of acres of rhubarb now growing where 15 years ago they only had small patches.

J. B. Wagner, Pasadena.

They have large hot houses, some of them covering half an acre, devoted to forcing during the winter months. For this forced hothouse stuff the growers receive from 35 to 70 cents per pound. This commands this enormous price because of its out-of-season possibilties, but the consuming trade complains somewhat because it is lacking in flavor due to the forcing process. I was told repeatedly that if California can produce this in the open the glasshouse grower will promptly be put out of business.

I was certainly very much surprised at the size of the stems of the Eastern grown rhubarb. They are not much larger, and in many instances are smaller than is our winter variety. And surely it is not so appetizing nor so attractive on the market.

I have had many people tell me that it grow much better and larger than here. This I believed until Mr. J. C. Vaughn, the Chicago and New York seedman, told me that it did fully as well here as in the East. As I say it had been my opinion that it could not do as well as in the East, partly because of my boyhood memories of the time when I lived there more than twenty-two years ago and the rhubarb which "mother used to cook." As to size, it was, indeed, surprising to me to learn that our California stalks were fully as large in diameter as those in our old garden."

Right here let us digress long enough to say that the reader will be able to see some exceedingly fine, large winter rhubarb, by calling at Mr. Wagner's place. It must be borne in mind that there is rhubarb and rhubarb, and those who do not appreciate between a fine article which has been grown from carefully selected seed and the ordinary scrub lots, will be truly surprised to see these magnificent stalks in Mr. Wagner's garden. Larger than a child's wrist, and sometimes two feet or more in length. When we remarked on the remarkable character of this product, Mr. Wagner said: "Now here, I am afraid that if you make an article of this and your readers see such a statement, they will say, without proper investigation, that it is a case of 'hot air.' and I wish you would ask that all who wish to verify these assertions to call on or write any of the following: A. O. Hayward, Thermal; D. E. Bryant, Pomona; Geo. Kopp, Burbank; C. R. Harrison, Norwalk; E. E. Isaac, Compton; G. E. Hollister, Chino; W. D. Maxwell, Downey." By the way, Mr. Maxwell was fortunate enough to put out some of this wonderful plant, and a few days ago he contracted with me for 20,000 more roots, and one of the above, Mr. Bryant, has eight acres planted and another ten acres ready to plant this season. He expects ultimately to have at least eighty acres planted to winter rhubarb. He is so enthusiastic that he would plant it all sooner, but of course is unable to secure plants for so large a tract within one season. Besides these there are two others who are desirous of negotiating for my entire lot of plants, but I have a pride in giving it the widest distribution, so that a much larger territory may be benefited by proving its worth.

"When I secured the original stock from Mr. Burbank seven years ago it was one round of queries as to how well it would do in this, or that, or the other section. This, of course, I could not at that time answer intelligently, so proceeded to give it a fair trail over as wide a territory as possible. Where I had no purchasers I distributed without price where people would agree to give it a fair trial and report to me. I am able in most cases to give authentic advice and opinion to those who may wish to know how well it will do in any section of Southern California, and also to many north of the Tehachepi. Anyone who will write to me and fully describe the soil, water, frost conditions, etc., I will be glad to answer from my observations as to whether success or failure will come from planting in the section described."

Going back to the Eastern market conditions, Mr. Wagner said: "One pecularity in marketing in the East is the fact that they tie in bunches leaving on the stem the entire leaf. This, of course, adds much weight and profit to the gardener. This, we could not do in California; that is, when shipping to the Eastern market, because the time in transit would cause decay in the leaf. Besides, I do not think it is right to ship and charge for something which is not all edible and adds nothing to the appearance of the article sold. This is especially true when such great profits as $400 to $800 per acre can be made, as has been done the first year with Crimson Winter Rhubarb."

* * *

When it gets right down to tacks in selling rhubarb plants we presume Mr. Wagner has sold more than all dealers in the State combined, and still has on hand a few more to sell. He told us recently that he has for the coming season over one-half million plants for delivery, on which he has worked studiously and intelligently, by hybridizing and by selection to produce a strain of plants which would be both high in quality and productive power. In this he has been aided by specialists of the Department of Agriculture at Washington, which has secured for him from foreign countries some varieties which it would have been impossible to have secured otherwise. One of these with medicinal qualities from Indo-China, Mr. Wagner thinks will become a factor in the agriculture in this section.

To the end that new interest may be created in rhubarb culture, Mr. Wagner has decided to offer prizes to be given at future State fairs as follows: For the finest exhibit, $50 worth of rhubarb plants. Second finest exhibit, $25 worth. Third, $10 worth, and to all others who make any kind of an exhibit, $2.50 worth of plants. This offer is open to anyone in the State, and is regardless as to where the plants on which the exhibit was grown were purchased. This shows that Mr. Wagner is not engaged so much in feathering his own nest as in pushing to the front this plant which has attracted so much attention the world over.

"You are wasting affection if you are pining for angels before you have learned to love folks."—Henry F. Cope.

Fruits in San Joaquin Valley

Written especially for the California Cultivator.

BY FRANK H. WILSON, FRESNO.

When in Dinuba a couple of years since the writer visited the home of Frank H. Wilson and was driven over much of the ranch. It showed that Mr. Wilson understands fruit growing and acts on his understanding, for his place had the trifty, well cared for, successful look which indicates the successful grower. A large part of the land was given over to the growth of nursery stock for the Fresno nurseries, of which Mr. Wilson is proprietor. In the following article Mr. Wilson is speaking from long experience.—Ed.

IN attempting to present to your many readers an article on the Deciduous Fruit Industry of the San Joaquin Valley, I fully appreciate the difficulties of furnishing an article which will cover accurately all the varied conditions of soil, climate, etc., which is found in this great valley. However, as a somewhat extensive grower of deciduous fruits, I shall endeavor to present my views as accurately as possible.

We have, I believe, in the San Joaquin Valley, especially in the irrigated sections, the greatest opportunities in diversified farming to be found in any portion of the United States, and possibly in the world. We have not, until recent years, appreciated these advantages, and while our range of products today covers nearly everything that can be grown in any semi-tropical country, our chief products are deciduous fruits and grapes. We have, however, only to look into the very near future to see the orange rank very close to our deciduous fruits in point of production. A most gratifying feature of our fruit culture is the high-class farming and care being taken with orchards and vineyards. Nowhere can be found more healthy trees and vines, as a whole, than in this valley today. To one who is acquainted with the early history of this industry here, the improvements over the old methods of farming seem almost phenomenal. The time was when everyone looked for quantity of fruit, not quality, but today we get not only quantity, but quality, unexcelled in any section of this great State, or the United States, for that matter.

Peaches.

Our climate here being dry and warm, makes it ideally suited for drying and curing fruits; consequently our settlers have planted varieties most suited to this particular branch of the industry. In peaches, the Muir, in my judgment, stands at the head of the list of freestone varieties; its great bearing qualities, ideal color, small and free pit, coupled with its freeness from "Curl Leaf" and other diseases, makes it the peer of all freestone varieties. A close second is the Lovell, similar to the Muir in size and color and, in addition, being a very good canner, as well as a first-class drying sort. It is, however, more susceptible to frost and "Curl Leaf" compared with the Muir. It ripens about a week later, making these two varieties a good combination to plant, as labor is an item to be considered in the busy drying season. The worth of other drying varieties of peaches I place in order, as follows: Elberta, Wheatland, Susquehanna, Late Crawford, Salway (a fine peach, but rather late for drying purposes), Early Crawford and Foster. The latter variety finds a ready sale as an early canner as well as an early dryer, and the Salway as later canner and dryer. Both are much sought after and highly esteemed for this purpose. While the early planting of peaches has been largely confined to freestone varieties, in recent years a heavy acreage has been set to clings. The superior quality of our cling peaches, coupled with the growing market for this fruit, has stimulated the planting of canning varieties.

It is no uncommon thing to find growers who have contracted their entire crops for a period of ten years to the canneries, at a price which leaves the grower a handsome margin of profit. In this list I place at the head the "Phillips' Cling," a peach which is yellow to the pit, medium size, fine texture, heavy bearer and an excellent keeper. This peach should be planted only on good soil and where late water is available for irrigating it. The next in point of value, I consider the Tuscan cling, which ripens with the Foster, and, like the Phillips cling, should only be planted in strong soil and where water is at hand for irrigation. In my experience I find it necessary to irrigate freely in order to bring these varieties to the required caliper. The Sellers Orange cling I consider next in value. This peach, under any ordinary condition, will attain sufficient size and consequently can be planted on somewhat weaker soil. It is a very popular variety and much sought after by canners. The McKevitt's cling is also a valuable sort and, I believe, the best white cling peach grown in this valley. It is uniformly large, fine texture, and always commands a ready sale for canning purposes. There are many other varieties which have been planted to a greater or less extent, but the above are the most sought after and the varieties which command the highest prices as commercial canning sorts.

Apricots.

The apricot has not been planted here as extensively as in some other sections of the State, and in many localities in the valley it has proved profitable and borne heavily, yet, on the whole, I do not consider it a regular cropper. The Royal and Blenheim have proved, under average conditions, the best fruiters, and while they are a little under size, the color is all that can be desired, pit readily, dry heavy, and are always in demand at the cannery. Other varieties which have a good record are the Routiers' Peach, Hemskirke, Large Early Montgament and Tilton Seedling. The latter has not been extensively planted and its merit has not been fully determined.

Plums.

Of recent years the plum has come into prominence as a paying fruit; more particularly as a green fruit shipper. It would be difficult to select from the long list of plums grown in this valley, the most profitable. All good shipping varieties have been money makers. On the river bottom lands the Tragedy and Sugar, also Hungarian (all of which are known to the trade as plums), seem to have the preference over other varieties.

On the uplands the Hungarian, Wickson, Kelsey Japan and Climax are most in demand. I have fruited and shipped these later varieties for several years and the returns have been most gratifying. There are a number of other sorts of plums which are profitable to grow and find ready sale for canning; chiefly among these I might mention Green Gage, Yellow Egg, Jefferson, Damson and Satsuma.

While the San Joanquin Valley is not generally considered a prune producing section, I believe on our river bottom lands are to be found as productive and profitable prune orchards as in any section of California. Orchards, when planted on Myrobolan plum root, have proved vigorous and lasting. The uplands have not proved so well suited to this fruit and extensive planting, I think, should not be encouraged.

Much has been written of, and prominence given to the fig as grown in this valley. Suffice it to say that this is its natural home, "The fig producing section of California." With the introduction of the true Smyrna fig here, the industry should be materially stimulated and prove a source of great wealth to our people.

Used in Every Hamlet.

While the great development of this valley has been largely along the lines of tree fruits, it is but a secondary consideration to the great and growing grape industry. Today our raisins are being used in every hamlet and by almost every housewife in the United States. New markets are being established and trade opened in foreign countries, so that the extension of our markets is keeping pace with the increased acreage being planted. Perhaps no one thing has added more to the increased consumption than the improved methods of packing, a large percentage of our crop now being sold in the shape of seeded raisins, packed in attractive one-pound cartons. These goods need no recommendation but establish for themselves an almost unlimited market. The industry was never on a sounder basis than today. The varieties most suited for raisins are the Muscat, Thompson's Seedless, Sultana and Malaga; the Muscat taking preference over all others. It should be planted only on good, deep soil, to get the best results. The Malaga and Sultana will thrive where conditions are less favorable. The Thompson's Seedless, while a rank grower, requires rich, loamy soil for heavy fruitage.

Reputation Established.

Secondary to the raisin in point of productiveness, is the wine grape. The reputation of our sweet wines is well established. Within the San Joaquin Valley is produced today something over ten millions of gallons of sweet wine, besides about one million gallons of brandy, which finds ready sale both at home and abroad. The varieties most planted here and which have proved most profitable, are the Zinfandel, Mataro, Mission, Grenache, Carignan, Father Zagos, and Burger. There are many other varieties in vineyard, but from a productiveness and profitable standpoint these have the preference.

Table Grapes.

We now come to the last and not least of our grapes in point of profit per acre, "The Table Grape." Few farmers who have been so fortunate as to possess a good table grape vineyard know the lack of no luxury. The past season has been a record-breaker for the shipping grape. No one season has equaled it to my knowledge. From old vineyards profits have ranged from $200 to $500 per acre, as a rule, rather than an exception.

The Malaga, while a good raisin grape, has also proved the most profitable as a green fruit shipper. Our eastern friends are taking kindly to these grapes. The demand for good fruit is increasing each year. The Emperor as a late shipper is unexcelled and good vineyards planted to this variety have proven wonderfully profitable. The Tokay while not grown to any great extent in the San Joaquin Valley proper, in the upper portion of this great valley, is extensively planted around Lodi and Stockton, also Modesto , and has proved a money maker.

The Thompson Seedless has also been extensively shipped to Eastern markets the past season and sales of almost $3000 a car of twelve tons have been realized on this variety.

We cannot of course expect these phenomenal prices to continue permanently, but good fruit, well packed, I believe will always bring the grower good returns.

The Only Kind Which Pays.

In order to maintain a good market for our products, no inferior fruit should be shipped. Our wineries will always take the poorer grades of fruit and that is the place to sell them.

Plant your vineyards on the best of soil, take first class care of it, and when in bearing, select a brand for your high grade fruit, packing nothing but the best under this brand and continue to do so and you will find the markets of the East will take your pack at good prices. It takes high class farming to produce high class fruit, and no other kind pays.

"Looks Good."

In conclusion I would say, the resources of this valley are unbounded. The soil is the most productive and water for irrigation the cheapest of any in any portion of California. The future looks bright indeed for the deciduous fruit industry in the San Joaquin Valley.

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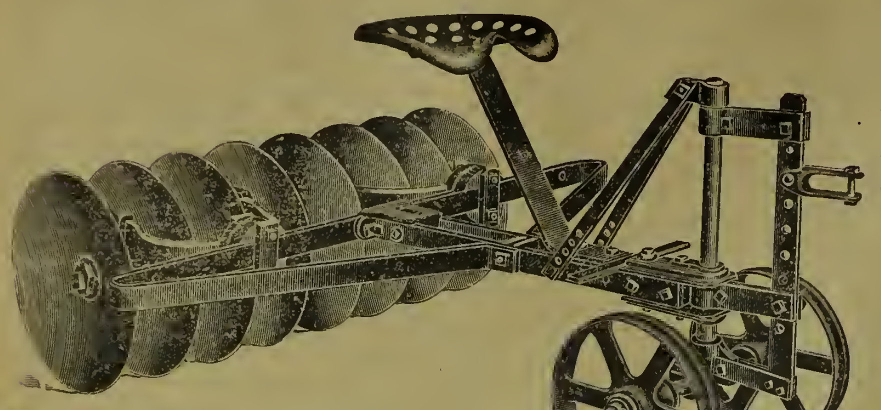

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Deciduous Fruits

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Climate perfection with pure, dry air, temperature ranging from 90 degrees to 30 degrees.

Yucaipa City, the valley's business center, will be opened soon and developed into a clean, thriving community.

Electric transportation will bring the valley within a half hour of Redlands and three hours of Los Angeles.

In opening this property for colonization in tracts of twenty acres and upward, we propose, for a limited time, to assist those who secure homes there, to the extent of the cost of their transportation to California. Maps and descriptive matter will be mailed upon application.

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Raisin Grapes

Written for the State Fruit Growers' Convention.

BY MRS. MINNA E. SHERMAN.

All readers of the Cultivator know Mrs. Sherman as having a fund of information regarding the dairy. But we give now an article which shows that her experience with grapes has fitted her to give of her knowledge in a way to inspire better care of our vineyards.—Ed.

THE earliest of historical people had raisins, dates and figs for food. Man's inventive genius was not taxed by having to cure these fruits, for in a dry, warm climate they dried on the vines and trees. The simplicity of the foods of the ancients suggests the Garden of Eden where food was the product of plant life, secured to man without toil.

In California twenty years ago we had nearly perfect conditions. Then there was no codlin moth, no phylloxera, no pear blight or white fly and no petty thieves. The rich people kindly took themselves off to New York or Paris for their foolish display. We lived the simple life, for none were over-rich and none in dire poverty.

Finally We "Caught 'Em."

Childlike we babbled of our blessedness! Then came codlin moth and pear blight! One-lungers and remittance men followed, then tourists and Paris fashions! These things we have assimilated. All the undesirable races of humanity have found a resting place in our earthly Paradise and when we dare to object the whole United States is shocked at a lot of talk, until it fears a further attack of gastritis and we are silenced. The workers for social betterment are appalled at the increased number of men that, with opportunity to earn money, refuse to work. They loaf, living on the earnings of their wives. Thank God! we have no longer to add "and of their children." These helpless ones are released, by the strong hand of law, from the weary hours that make a day's work in the canneries and packing-houses.

We're First.

The first raisins made in the United States came from California. To whom the credit is due I do not know. I am not here to throw that apple of discord in our midst. They were made, and that is enough, in the '70's; along in the '80's they became a commercial success. The peculiar suitability of Fresno soil, the abundant water supply, the long drying season, free from dew and fog, soon singled out Fresno county as the raisin center of the State.

The details of planting and laying out of a vineyard will be passed over, as time is limited. The choice soil for raisin grape culture is of small area even in Fresno county's vast domain. The deltas of the many wet-weather streams that rush down from the Sierras and sank away into nothingness on the sandy plain, carried the rich, fine, red soil to make the red raisin land. This heavier soil is a little later, about ten days, in maturing the grapes, but it makes the rich, meaty raisin—one that is a mass of tender jelly inclosed in a thin skin.

On the heavy red soils the vines reach maturity earlier and make larger vines than on less favored soils. The often-told story of paying crops of raisins on three-year-old vineyards is true of this soil. I have had three-quarters of a ton of raisins to the acre on a three-year-old vineyard. To secure this result the curing and cultivating season must be ideal in their way. The vines as ordinarily planted are picked up at random, often made from cuttings taken from a brush pile. This is not the way to make a first-class vineyard. A vineyard is well made when the cuttings are first selected from marked vines, then rooted; and, again, only the best of these rootings are planted. There is no more royal road to vineyard than to any other kind of goodness; it is ever the narrow, straight path of daily doing each day's work well.

Came from Europe.

The varieties of grapes used for raisin making are of European origin. The Muscat de Corde Blanco, the Muscatelle of Alexandria—both names are used for a white grape in Fresno county that is too nearly alike to have different names. It is a large, light yellowish green grape with a distinct flavor, of thin skin and very sweet. A good table grape, as the berries are large-sized. It has a fair number of seeds that are closely held in the pulp. The Sultana and the Sultanina are small, light yellow-green grapes that grow in large bunches and are entirely seedless. A few Fehre Zagos and Malagas are dried each year, also, for raisins. Under proper conditions the Muscat is a vigorous grower, but it has little ability to withstand adverse conditions. When it is starved it takes to making small two-crown and seedless berries. When this occurs it is time to lengthen the pruning and put on some fertilizer. The Muscat has been pruned short, very short, to force it into producing crown cluster of large berries. The demand for the Dehesa cluster has grown less each year. Fresh fruit is plentiful all winter in the large cities and raisins are no longer a necessary part of the dessert. Today, quantity rather than quality, is in demand in raisins, the pruning has been lengthened. Three, four and five buds are left on the spurs, where a few years age two would have been considered as enough.

The Muscat is pruned to low stumps. It was strongly brought to me how forlorn they look after pruning time, by a woman on the train saying to me: "I thought this country had grape vines?" I said: "Yes, there is a vineyard. "Oh!" she replied, "I thought that was newly cleared land covered with stumps."

Certainly, it requires an eye of faith to see those stumps become a vineyard in a few short months, full of beauty. Nature, however, even in the winter time paints the red-brown soil and surrounds the blackened stumps with the gorgeousness of the poppies. They fill everything with the sunshine of their fragile beauty.

Some Things Worry Us.

Frost and defective pruning produces "nigger heads" in a Muscat vineyard. These round black masses with a fringe of new canes around their base are indication of a failing vineyard. The remedy now applied is to raise as many of these canes as possible to the crown of the vine, tie them together and cut them across to make a new crown over the old one.

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JAMES McFADDEN, OWNER

As soon as these spurs are stiff enough to be self-supporting, the cord is removed. The next year's pruning uses these spurs as old wood are pruned, leaving two or three buds on each cane coming from them. Old vineyards that had dropped in production until unprofitable, after three years of long pruning, have come into full bearing again. What the ultimate result will be we cannot forsee, but it is certain that old blasé vines have been restored to youthful verdancy. Spring frosts are one of the troubles that makes the morning naps of the rasin grower far from peaceful. These are mean little nips that kill back the early leaf growth and take the tiny new-born bunches. The baby bunches of grapes are folded away with the tiny leaves and tendrils in the bud, by the mother vine for next year's unfolding. While it is known that the crop is often greatly shortened by this nipping, little has been done to prevent its ravages. It does not come often enough to be a serious menace, fortunately. We have tried brush burning, fire pots, and all the rest of that smoke-forming cloud protection. It was lots of fun for the boys to get up at three in the morning, have hot coffee out in the vineyard, and then have half a day off to sleep. The smoke would never obligingly form a cloud, it sailed straight up, and up, and up out of sight.

Water on the land will lessen frost; in a large way this is true, now the skilled vineyardist tries to have the small irrigation ditches full of water during early spring time.

It is also a matter of observation that the heaviest frost we ever had, the coldness flowed like water, so that a fence or a row of trees turns a side flow and in many cases that portion of a vineyard was saved. These hours of coldness come at about three in the morning and pass with sunrise, so that a few hours at most is only needing guarding.

From Waking to Sleeping.

The vineyard in the springtime rapidly takes on beauty. The tiny green woolly leaves put out on the brown lifeless looking trunk and touch the heart with their tender baby-like helplessness. Quickly they grow and soon the leaves take on a shining surface, like the schoolboy's happy face. Then comes youth and the clinging tendrils of love outreaching until they clasp hands across the rows with another outstretched hand. Middle life, the long, hot summer day, is the period of fruitage and of silent work. Autumn, like old age, has the perfect grapes, the wine of character tried is ready for the gathering. The leaves as earthly dross silently fall one by one, returning back to earth. The vintage is here and the vine sinks into the silent sleep awaiting the resurrection of spring.

Some Cultural Points.

Good plowing and plenty of it, varying the depth year by year so that the plow sole is controlled, then cultivating to retain the moisture. The old story of increasing fruitfulness of the vineyard in which the old father told his son he had buried a treasure is applicable to California. The land needs working. Try it this season for yourself, water a ten-acre piece vineyard, then divide it into four equal parts. Plow the first quarter as usual, the next quarter give one extra plowing, the third quarter two extra plowings, the fourth quarter three extra plowings, double the cultivating and harrowing in the same proportion. The result will not only show the first year, but will continue to show for a term of years.

The chief defects in Muscat grapes is weak pollinization or dropping of the berries at blossoming time. The Muscat does best when it is planted by the side of grape of other varieties. It is a good plan to plant the long way of the vineyard every other check with a good vine for pollen. The wine grapes have many varieties

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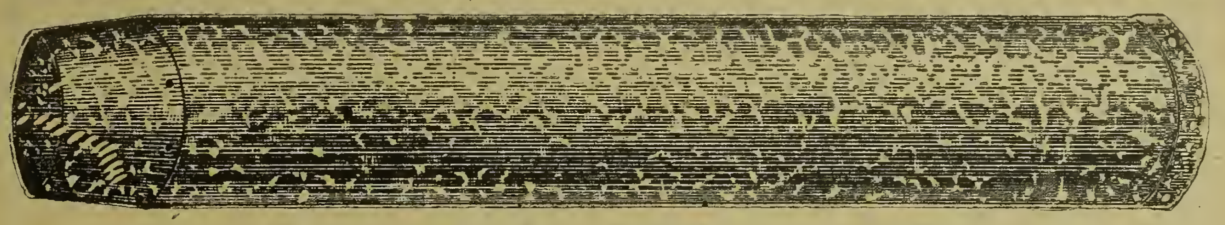

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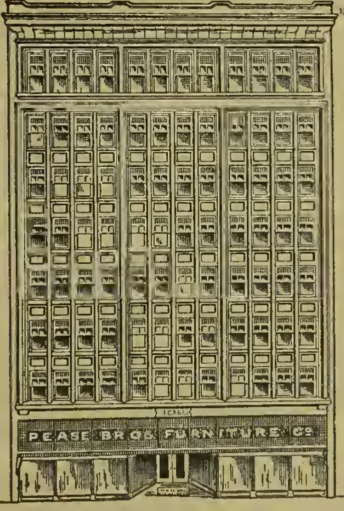

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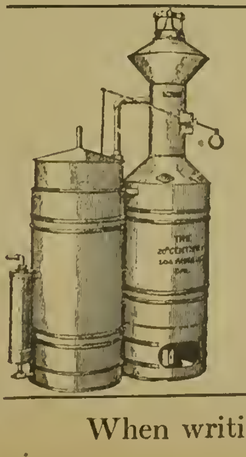
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California Fruit Growers' Exchange

The Most Successful Cooperative Fruit Marketing Organization in the World. During the Last Three Years It Has Marketed 43,320 Cars of Citrus Fruits, for Which a Net of $29,329,212.21 Was Received, and Out of That Vast Sum, the "Bad Account" Loss Was Only $310.00

Shipped Last Year 55 Percent of Crop

COOPERATION and organization have been the means of bringing to success many issues and this holds true of the association known as the California Fruit Growers' Exchange, which, as its name implies, is an association formed for the purpose of handling to the best possible advantage, and finding markets for the thousands of carloads of citrus and other fruits raised so extensively in California, and which are so much sought for in the best markets of the world.

The first attempt at an organization of this kind was made at a convention of growers at the Chamber of Commerce in this city in April, 1893. the declaration of principles of the association then formed being as follows: "To provide for the marketing of all the citrus fruits at the lowest possible cost under uniform methods, and in a manner to secure to each grower a certain marketing of his fruit and the full average price to be obtained in the market for the entire season."

The organization of association and district exchanges, following the recommendation of this convention, was effected in all the principal citrus fruit-producing districts, the packing to be done by the association at cost, and the marketing through an executive committee composed of one member from each district. Under this arrangement the marketing of fruit was continued only during the seasons of 1893-94 and 1894-95, but, proving unsatisfactory, the organization of the Southern California Fruit Exchange was consummated in October, 1895. This organization was in turn was succeeded by the California Fruit Growers' Exchange to admit of allowing the fruit of the entire State to be handled by the association. By virtue of this change and the expansion of its powers and efforts, the exchange in the last year has handled 16,217 carloads of citrus fruits from all sections of the State, of which 2523 were lemons, which, after deducting charges for freight and cost of selling, brought a net return to the growers of $12,250,000. As a sample of the immense business transacted by the exchange it may be said that 70 per cent. of all the lemons raised in the United States is handled by it, to say nothing of the great bulk of the oranges grown in this country.

The foundation of the Exchange was laid upon the theory that every member is entitled to furnish his pro rata of the fruit for shipment through his associations, and every association its pro rata to the various markets of the country, thus giving to every grower his fair share and the average prices of all markets throughout the season.

It is also a provision of the plan that all fruit shall be marketed on a level basis of actual cost, with all books and accounts open to inspection by the members at all times, a feature of fairness in cooperation that is commendable. Salaried and experienced agents are maintained at all the principal markets in the United States and Europe, who sell direct to the jobber, thus saving to the grower the profit that otherwise would go to the middleman. Not only is this saving great in itself, but it is largely added to by the fact that, through this community of interests and cooperation, the growers are getting their packing, handling, supplies, shipping and collections expeditiously done and at much less cost than by the old-time methods of individual handling and sale.

One of the most important features of this cooperative plan is in the matter of supplies, by which many hundreds of thousands of dollars have been saved within the past three years. Where the individual would not be able to secure advantages were he forced into the market alone, purchases are made in large lots and by contract, and the advantages have been so apparent that the growers have organized for the manufacture of their own boxes, and by next year these will be made in large quantities at greatly reduced cost, all of which means larger returns in net earnings from the citrus acreage and more money to the credit of the growers in the banks throughout the State.

An air of simplicity marks the working basis of the organization. After the growers have assembled and organized, each locality of a district maintains a separate association, sending a representative to the district exchange, which acts in the capacity of a clearinghouse for that section. A member is sent from this district exchange to act as a director of the California Fruit Growers' Exchange in this city. The growers thus, through a well-defined channel, govern themselves and have complete supervision of the entire organization.

The district exchanges are as follows:

A. C. G. Fruit Exchange	Azusa
Arlington Heights Fruit Exchange	Riverside
Covina Fruit Exchange	Covina
Duarte-Monrovia Fruit Exchange	Duarte
Ontario-Cucamonga Fruit Exchange	Upland
Queen Colony Fruit Exchange	Corona
Redlands-Highlands Fruit Exchange	Redlands
Riverside Fruit Exchange	Riverside
San Antonio Fruit Exchange	Pomona
San Bernardino County Fruit Exchange	San Bernardino
Semi-Tropic Fruit Exchange	Los Angeles
Sunset Fruit Exchange	Orange
Tulare County Citrus Fruit Exchange	Porterville

It is the duty of the "home," or local, associations to attend to the packing, and everything is done at actual cost, the shipping being through the district exchange. The sales are made by the California Fruit Growers' Exchange. At the first of each year the total cost is computed, and this being deducted from the returns, the remainder, which is the net profit, less the cost of the growing and picking, goes to the manager of the orchard in which the fruit was produced, and at the close of the season the exact cost is determined and the balance remitted to the grower, who thus pays only the exact cost of handling his fruit. At the present time the total cost of packing, shipping and marketing will average about 35 cents per box, while 75 cents was considered a fairly low figure per box previous to the perfecting of this organization, and in fact frequently exceeded that figure. Also before organization the charges of the commission men for disposing of the fruit alone were higher than the entire cost of the former charges.

The California Fruit Growers' Association occupies general headquarters on the eighth floor of the H. W. Hellman building, the roster of officers being as follows:

F. Q. Story, president; P. J. Dreher, first vice-president; W. G. Fraser, second vice-president; B. A. Woodford, secretary and general manager; E. G. Dezell, assistant general manager; J. L. Merrill, cashier; R. H. Wilkinson and R. P. Burton, sales managers; A. D. Fraser, claim-manager.

The best executive ability and keenest financial thought mark the entire handling of the affairs of the exchange, its high character of procedure having won for it the utmost respect in the markets of both Europe and America. While imbued with the importance of their work and at all times conducting the affairs of the exchange on strict business principles, there is a decided air of courtesy and approachability in the officials and management, and this in great part is the secret of the success of the exchange.

While not attempting to specialize it may be remarked of the president, F. Q. Story, that he is in the front rank as one of the captains of industry who has given fame and credit to California and its extensive fruit interests. All the officers are men of more or less practical experience in the matters of which they are in charge, notably the secretary and general manager, B. A. Woodford, who is a grower himself, having gained much practical knowledge from personal experience in the growing, shipping and selling of fruit. The record of the sales-manager, R. H. Wilkinson, has amply proven his fitness for the position which he holds, while his assistant, R. P. Burton, has evinced a decided success along the same lines.

Before the establishment of exchanges and the strength and utility and cooperation in disposing of California fruits was shown, it was the custom of the commission men in the various markets to give attention to citrus fruits only at such times as these fruits dominated the market or were in excellent and immediate demand, and the grower who failed to strike the propitious moment with his crop went begging. He had no alternative, if his fruit didn't rot, but to pay exorbitant commission rates, because the agents could make more and quicker profits in some other lines.' But time and the exchange have worked decided wonders. Now, through the exchange, the commission men in the markets of the world clamor for and are eager to handle the California fruits.

Some idea of the growth of the industry during the past three seasons may be gleaned from the fact that in 1904-5 14,219 cars were shipped at a net price of $7,123,962.54, with a loss of $310. In 1905-6 12,384 cars were marketed; net amount received, $9,936,497.67. The crop of 1906-7 consisted of 16,217 cars marketed at an estimated net amount of $12,268,752, with no loss reported.

It may be pointed out that the management of the exchange made a remarkable record in the three past seasons referred to, as it will be seen that while a total of 43,320 cars were marketed, representing a net amount received of $29,329,212.21, yet there had been a total loss of but $310 in loss through failure to collect, or loss in transmission of funds.

There are over eighty associations, covering every citrus fruit district in the State, and packing nearly two hundred different reliable brands, yet every exchange has its own private brand and makes such rules for grading, packing and pooling the fruit as may be agreed upon.

Local exchanges are formed from the several associations in a locality, and serve as a medium between the associations and the general exchange.

The directors of the California Fruit Growers' Exchange comprise the thirteen stockholders, all of whom are selected by the local exchanges.

Possibilities of Nut Growing

Written for the State Fruit Growers' Convention.
BY LEONARD COATES, MORGAN HILL.

The paper given below was written by Leonard Coates, of Morgan Hill, for
ıe State Fruit Growers' Convention recently held at Marysville. Mr. Coates is
nthusiastic in the belief that nut culture will be more of a factor in this State's
roducts some day. There have been many failures in nut culture, but study of
onditions and requirements may bring the success to other nuts which the Cali-
rnia walnut is now promising.—Ed.

NUT culture in California embraces only the almond and the walnut as established in-
stries of commercial importance,
itting the peanut as belonging
re to vegetable culture, and allud-
; to the pecan, filbert, chesnut and
tache as still in more or less of
experimental stage.

uoting from the chapter on the
lace of Nuts in the Diet," in the
rrent Year Book, Prof. Jaffa says:
has been shown by the numerous
estigations that nuts are rich in
tein and fat, and that these nu-
nts can be fairly well assim-
ed. Nuts being such a concen-
ted food, their proper place in the
t is a matter for more careful
sideration than is the case with
ny of our ordinary food mate-
s. It must not be forgotten that
ertain bulkness of the diet is con-
ive to its normal assimilation,
that too concentrated nutriment
often the cause of digestive dis-
bances. It might be expected,
n, that nuts could be most advan-
eously used in connection with
re bulky foods, such as fruits,
etables, breads, crackers, etc.
st rationally used, they should
stitute an integral part of the
u rather than supplement an al-
dy abundant meal. Since nuts
so concentrated, eating a consid-
ble quantity out of hand at odd
es will mean an over-supply of
if a corresponding reduction is
made in other foods.

he distress sometimes experi-
ed when nuts are eaten is, un-
btedly, often due to improper
tication or to over-indulgence.
investigations made at the Cali-
ia station indicate clearly that
siderable quantities of nuts prop-
eaten do not cause distress.
re is a popular belief that a lit-
salt with nuts prevents the di-
tive disturbance resulting from
ng them. To most persons salt
oubtedly adds to the palatability
the nuts, but no investigations
e been found on record which
onstrate any actual improvement
he digestibility of nuts due to
"

Almond.

he almond was the first of the
ts" to become of commercial im-
ance in California, and, owing to
atic conditions, this State will
ys enjoy a monopoly in its cul-
tion. Success, however, has
from the start rather uncer-
, although added experience and
cord of some partial and total
res may now be taken advan-
of, and mistakes, therefore,
ded by those who are engaging
he production of this crop. The
ier planted varieties consisted of
Langucdoc, imported from
nce, and the Tarragona from
in. These were not generally
itable, and the almond industry
uished until it received a fresh
tus on the introduction of the
h seedlings in 1885. Since then
r good seedlings have been
n so that, at this time, we have
tandard varieties, I. X. L., Non-
el, Ne plus ultra, Lewelling, Drake, Peerless and Texas (Texas Prolific.)

The almond has been an uncertain cropper owing to its early blooming, rendering it liable to injury during spring storms or frost, and to the more or less self-sterility of the blossoms of some varieties. To produce varieties by intelligent crossing, that are late bloomers and self-sterile as well of high quality, is what plant breeders should have in mind when experimenting with the almond. The Jordan has been planted rather extensively the last few years, some old trees of other varieties being grafted in order to hasten bearing. Samples of California-grown Jordan almonds are reported at Washington as inferior to the Spanish product in quality, and the suggestion is made that seedlings of the Jordan type may be raised in the State that more nearly meet the requirements of the market. I would recommend that Texas, Lewelling or Drake be planted alternate with the other named varieties to act for them as pollenizers. Just to what extent this will increase the chances of regular bearing is largely conjectural, but there is no doubt that an almond orchard should always be planted in this way.

A mistake has been made in the endeavor to produce almonds with abnormally thin shells, rather than having the quality of the kernel the main object. No good is gained when an almond or a walnut is produced having an excessively thin or paper shell, but the reverse. Rapid eating, causing indigestion, would be encouraged, and nuts with shells so easily broken would much more readily deteriorate and become rancid. The almond succeeds best on almond root, and requires a deep, warm soil, or a hill location where a shaly or rocky subsoil permits free access for the roots.

The Walnut.

California produces, at the present time, about twelve million (12,000,000,) pounds of walnuts annually, in comparison with which the production from other States is not worth mentioning. The Persian or so-called "English" walnut has been planted in several Eastern and Southern States for more than one hundred years, but it is still considered merely as a curiosity. Its non-adaptiveness in those regions is doubtless due to the great extremes in climate. The tree thrives and bears well in France, England and other European countries. In the former country selected seedlings have become fixed types for many years, and from these trees others are propagated by the ordinary processess of budding and grafting.

All trees and plants are amenable to climatic influences. Hence seedlings raised from trees which have been transplanted into a climate where the conditions are less favorable than those to which they have been accustomed, will have a tendency to become hardier than the parent. Plants adapt themselves or become acclimatized to a much greater extent than is generally believed. Take, for example, two species of eucalyptus, E. corynacalyx and E. rudis. Both have roundish leaves changiing slightly as they get older, but the former, being used to a cool climate carries its leaves horizontally, enjoying all the sunshine it can get; while E. Rudis, finding itself further in the interior under the rays of a hotter sun, swings its leaves over, hanging vertically, to escape injury therefrom and to retard evaporation.

So we find many seedlings of the walnuts first planted in California bearing good annual crops of first-class nuts, while the parent trees were very unsatisfactory. Some of these have long been recognized as varieties, such as Santa Barbara Papershell, Ford's Improved, Placentia Perfection and others, many thousands of trees having been grafted from the original ones but, unfortunately, many more thousand seedlings have been grown which has resulted in the production of a large percentage of second grade nuts.

As I have on other occasions stated, it is a grave mistake to imagine that these varieties do not succeed and bear well in almost any good fruit section in Northern as well as Southern California. The trees first planted more than a half a century ago in Sonoma and Napa counties never bore well, and it is claimed the trees were frequently diecious, neither is there any record of their success elsewhere, but only of some of their selected offspring.

Pecan.

The pecan has had no attention bestowed upon it of recent years. The late Dr. Strentzel planted a grove at Martinez, and isolated speciments are to be found in most of the older settled valleys of the State. The pecan is very often diecious, which accounts for single specimens frequently being barren. This is a reason why the pecan is often said "not to do well" in California.

While our summers are long, the usually cool nights retard growth, and in consequence, the nuts do not ripen near the coast. A rich soil, plenty of moisture, and a hot summer form a combination congenial to pecan culture. The river bottoms of the Sacramento-San Joaquin valleys form an ideal location for this tree. This is no theory, but a statement based on observation, for anyone may see the pecan flourishing and ripening good crops of excellent nuts from Oroville, Butte county, to Tulare and Kern. But, as with the walnut, it does not necessarily follow the varieties or fixed types, succeeding well in Texas or Florida, will do equaly well in California. The conditions being so different it is more than likely that what is best in Florida would be a partial failure here.

Therefore, we want to raise our own seedlings and, by selection, produce types worthy of varietal propagation.

I would strongly recommend that the pecan be planted extensively in the interior valley as a street and avenue tree, its symmetrical, upright growth being so much in its favor. A double purpose would then be served, as, in the course of time, varieties would thus be found suited to our climate and meeting the requirements of the market.

Chesnuts.

Chesnuts deserve more attention. The European varieties and those imported from Japan form highly ornamental trees and, with the ever-growing demand for nuts as food, they will have added value. The chesnut stands heat well, some of the largest in the State being in the Thermalito Colony near Oroville.

Filberts.

Filberts have not been much of a success thus far, though Mr. Felix Gillett reports them as bearing well at Nevada city. There is no doubt that the nut trees (excepting, of course, the almond,) while in some instances diecious, or bearing staminate and pistillate blossoms on different trees, more often suffer or fail to bear good crops through a lack of simultaneous blooming of the male and female blossoms.

Pistachio.

Pistachio, or green almonds, (Pistacia vera) has been grown to a limited extent in California for many years. G. P. Rixford of Sonoma was, perhaps, the first to grow the nuts, having a crop from his trees in 1881. The tree is very ornamental and well suited in every way to the climate of California or those regions where the almond tree thrives. It is an exceedingly deep and rapid rooter, succeeding well in dry locations. On its own root it makes rather a low, spreading tree, although from a lot of young trees I have growing from seed produced in Fresno county, they are by no means dwarf in character, properly selected. Pistacia vera belongs to the Sumach order, is distinctly diecious, producing nuts on the pistillate trees only.

The Future.

The future of the nut industry in California is very bright. To avoid mistakes and disappointment, however, greater care should be exercised in the selection of soil and location, as well as the varieties to be cultivated.

Next spring many a man who is old enough to know better will pose as an amateur gardener.

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Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Fertilizer For Berries.

What is the best fertilizer for all kinds of berries and how best to apply it? Is nitrate of soda good for strawberries and how apply it? I had thought of dispensing with the Cultivator, but find it is the best all-around paper yet.—R. A. G., Gardena.

Nothing is better than stable manure, if it is not too coarse and full of straw. For strawberries we always aim to apply our fertilizer before setting out the plants, as it is very difficult to apply anything, unless I except nitrate of soda, afterward. Strawberries in Southern California are grown in rows very close together and because of this there is little chance to apply fertilizer after the plants have been set out. We prefer the same method for all kinds of berries.

If stable manure cannot be had the following formula is the best I have found:

Five parts pure ground bone.
Two parts high-grade sulphate of potash.
One part nitrate of soda.
Put in another form it would be:
2000 lbs. ground bone.
800 lbs. potash.
400 lbs. nitrate of soda.

The ground bone and potash can be mixed and sown over the ground after it has been plowed, and then thoroughly incorporated with the soil by going over it a couple of times with the cultivator, followed by the harrow. If this is done, say February first or any time thereafter, the nitrate of soda can be mixed in with the others and all put on the ground at once. A ton of this mixture per acre will not be too much to use. But if this is done prior to February, it would be better to hold the nitrate of soda until the plants are in active growth and then apply it in the same proportion as you would if mixing all three. Nitrate of soda is soluble and if applied when crops are dormant it is soon leached away and the plants do not use it because they are inactive. With the bone and potash, however, it is different. They remain in the soil until every atom is used up by the crops. If not all appropriated this year, the plants will use it the year following.

Nitrate of soda is good for strawberries if not used in too large quantity, and if applied when the plants are in active growth. Too much nitrogen makes foliage at the expense of fruit. I never use nitrate of soda when I use liberal quantities of stable manure, because the latter always contains enough nitrogen for the needs of the crops.—Q.A.L.

Soil Analysis.

I would like to ask through your valuable paper where I can send soil to have it analyzed, ascertain what kind of fertilizer it should have to make it more productive? What is the probable cost? Any suggestion along this line will be appreciated.—By a Subscriber.

By writing to Agricultural College, State University, Berkeley, you will receive instructions as to how to select your soil sample. That is to be sent according to directions when it will be analyzed and repor made to you as to its chemical composition. We believe there is no fe for this service. We question, however, as to whether such analysis i of great value to most farmers.

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

Red Scale.

Will you please tell me what t spray orange trees with to kill re scale? What is the best time of yea to apply it, and the number of appl cations? N. E. M., Santa Ana.

Red scale is a serious pest, and w would use the gas treatment if pos sible. If you cannot secure the tent apply soon a two per cent solution distillate spray.

Strawberries Dying.

Last summer the leaves aroun some of our strawberry plants starte to dry, and finally we noticed that th whole plant died. Do you think spra ing would do this any good? If s when and with what materials shou I spray? If not, what should I d —E. E. Ensher, Fresno.

The trouble is most likely caus by something working upon the root Without seeing and examining t plants, it would not be possible state definitely the cause of t trouble. I have often seen plants d that way when they lacked wate And sometimes they have died f me when the most critical examin tion failed to disclose any cause. B usually only a few here and the over the patch would die. Eviden it is not fungoid trouble, and therefo spraying would be useless. If t trouble seems worst on that part the bed that at any time failed to sufficient water, that may be t cause. Alkali will produce t trouble. Is the land free from alka In a section as hot as Fresno, I inclined to believe the trouble w caused by want of care in the irri tion.—Q. A. L.

Rhubarb.

How is rhubarb grown? Is it fr seed or plants? What variety is be What soil is best? Is adobe good raise it on? When is it plant What its care? T. G. B., Orange.

The ordinary rhubarb was lar grown by division of the root, but newer and more profitable "Crim Winter" is usually grown from s as its roots do not divide well. less one has experience with grow the seed, it would probably be be to buy the young plants. These sh be planted later in the spring. barb is not exacting as to soil, but lighter sandy loam is better than heavy adobe. Clean, ordinary ga culture should be given.

Honey Production.

What locality of California is ducing the most honey, and from w plants is it secured? E. C. A., M tain View.

Southern California, and especi San Diego county, is the heavy h producer of the state. White black sage are the principal ducers. Alfalfa in the San Joa Valley is proving a good pasture

Scours in Calves.

Mr. F. R. R., El Monte, writes treatment to relieve scours in ca

Continued on Page 54.

TREES

A carload of deciduous fruit trees of the latest varieties. Clean and healthy—all true to name—are now at the Stewart Bros.' tree yard, 732 S. Spring St., for sale. Several new as also old varieties of apple trees which cannot be excelled. Large stock of walnut trees, peaches and apricot. Full assortment of grapes, orange and lemon trees. Best Northern and home grown trees. Call early and get prices. Special prices made to early purchasers.

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One sentence of a police magistrate · more effective than a dozen sennces handed out by a political orar.

RAISIN GRAPES.

Continued from Page 35.

that are useful for the purpose. If it is not cared to grow wine grape extensively, then a row every ten or twelve rows will answer very well. The Sultana and the Sultanina are trellised vines and add to the expense of handling. The sale of these seedless varieties of raisins are somewhat hurt by the seeded Muscat, as a commercial product. The tendency this year was to ship them green, and they are desirable and profitable for this purpose. As the years pass we are more and more confirmed in the opinion that all vineyards are cleaner and healthier that are sprayed with Bordeaux mixture every winter (4-4-40), we find necessary to raise clean table grapes. On the Muscat the rough "nigger heads" are full of fungus growths.

Careful sulphuring of the Muscat is important. The first sulphuring is done when the buds first swell and open, the next at blossoming time, and the third one when the vines need it. A warm year they rarely require the third sulphuring, while a cloudy spell will quickly develop mildew in a dirty vineyard. The sulphuring machine makes this work much easier and reduces the expense over one-half when compared to the old way of sprinkling from a can.

The worse pest we have had in the last few years are thrips and hoppers. These are thick at night, or rather at dusk. In driving alongside of a vineyard they blind the eyes of the horses and drivers. In the vineyard they cause early loss of foliage, leaving the grapes to sunburn.

Takes Capital.

A raisin vineyard represents a heavy investment nowadays, for sweat boxes and trays eat into money very fast. The trays are of wood, two by three feet in size; across the end are two-inch cleats. These cleats are made higher than the tray, to permit stacking and turning. The weather agent earns his pay in Fresno if he answers the telephone in September and October, for whenever a cloud no bigger than a man's hand appears every grower expects a terrible storm.

When Everybody Works.

When the message does come, "Stack your raisins," the big bell rings, every man on the ranch leaves his work and all hands pile up the trays. If it does not rain, some are ungrateful enough to growl. If it does rain, the raisins are stacked and the grower goes to bed to listen to the patter and pour of the rain. Perhaps all the next day it continues and he frets over the prospect of heavy dews after the first rain. This is one of the pangs of growing raisins.

Drying Points.

The life of a raisin tray is about nine years. After the third year the repairs increase until the tray is like the boy's jack knife: first new blades, then a new handle, until all the original tray has gone glimmering. The need, today, is for some substitute for wood for a tray and sweat boxes, as well as for packing boxes.

The ripening of the grapes are shown by the dulling of the bright green foliage, and when the juice of the grapes tests twenty-four per cent. Then the trays are hauled out and the flurry of picking begins. It is not long before the trays stretch along the rows full of the light yellow green grapes. The air is full of the soft sweetish acrid smell of the drying grapes.

After ten or twelve days of exposure to the sun the half-dried raisins are turned. This is quickly done by putting an empty tray on a full one and reversing them and leaving the raisins other side up, exposed to the sun. After a week they are stacked and let finished in the shade. This makes a more meaty raisin than if they are let finish entirely in the sun.

In former years the size of the bunches and berries counted as extra money, then the picking was carefully watched and paid for by the day. Now that all this has passed the work is contracted. This year the price was $15 a ton delivered in the sweat box. This is the highest price we have ever paid. The quality of the raisins has fallen steadily of late years. The first and second settings or crops are picked together, and many of the raisins are deficient enough in sugar to be merely dried grapes.

Raisins are not handsome in coloring and require more skill in adding color to them by ribbons and fancy paper than any other class of fruit. The ordinary package of commerce is not only expensive, but it is a hideous, unappetizing looking affair. The improvement of the clean white of the confectionery paper and soft shades of ribbons will help the appearance of the pack greatly. At present crude colors seem to prevail, with gold and silver trimmings. No one desires to eat gold and silver.

The packing of the raisin grape has become centered in the towns. The home packer is down and out in nearly every case. The cause has been railroads and the large seeders. The royalties on raisins seeded had to be paid and it has cut greatly into the raisin industry profits, for seeders and railroads charge all the traffic will bear.

Killing The Goose.

The packers, in dealing with the growers, have always shown a surprising lack of tact. One man among them that will always do right, when appealed to personally, has been nicknamed in derision. Moral honesty, the honesty advocated by Mr. Roosevelt, the honesty that is honest because it is right, has been largely lost sight of and mere legal honesty that serves to keep a man out of jail, has taken its place. The brotherhood of mankind has been forgotten by grower and packer alike, it has become a game of who can beat the other.

The present conditions are shown in the reluctance to plant Muscat vineyards among the old settlers. The wine men are trying to discourage the further planting of wine grapes. They certainly have stopped it for some time by the policy of this year's settlements. When money was scarcest and things looked the darkest, the wine association paid the growers in notes, at a low rate of interest, not due for six months. This was the loyalty they have shown in helping the credit of the people!

Resistants.

Phylloxera and pear blight are still in our midst. The vine disease has not reached Fresno. The vine disease would be like pear blight, a wipeout. It would not pay to fight it. So far our vineyardist can, like the good Indian, say, "Thank God that others are worse off."

In fighting phylloxera we have the experience of Europe in growing resistant roots. In Fresno it does not do to talk about phylloxera. In one vineyard, where vines were being removed as worthless, I said something about phylloxera, but the foreman was indignant and said, "Why, it is only muetoides on the roots." I smiled, for all my neighbors know so much more than I do, that it is useless to say much.

The right root on which to graft the Muscat has not as yet been definitely settled. In South Africa the Ruprestris Metallica has given good results. The Ruprestris St. George, that we all rushed for at first, is at present rather under a cloud, as it has not proven altogether satisfactory as a root fr Muscat. The present root that seems most promising is "1202 (M Norvedre Ruprestris) of France—American stock. This root has proven vigorous and seems to like Fresno conditions of a rising and falling water table.

Honesty the Best Policy.

After all, the grape industry in California is new, when compared with the old world. New industries must find their places in the world's economy. The new industry brings with it changed conditions in the world's markets. Time will balance some of the evils of bugs and bacteria. Fruit packing houses that live on the growers' money and hand him out "red ink" are of a necessity and self limiting. They are like bacteria that die from their own poisoning.

Let us not lose in the present times of depression the upward looking toward better things. By our reaching out help the little portion of the world around us, back to the old time industry and honesty, when labor had its own perfect reward in its honest pride of achievement, and when graft did not seize the money of the people. Let us live, laugh and rejoice that we live in a land of sunshine and flowers, that California is our home and our earthly paradise.

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The Prune in California

Written especially for the California Cultivator.
BY H. G. KEESLING, EDENVALE.

The prune industry is written about by H. G. Keesling, of Edenvale, near San Jose. Mr. Keesling growes prunes, knows prunes and believes in their future. He is not one of the old-time writers for the Cultivator, but has at times furnished short articles for our readers. We hope he will come again.—Ed.

MANY people have seen and tasted prunes of some sort, but not all have eaten California prunes and a comparatively small number are acquainted with prunes of highest quality such as grow in California, and particularly in the Santa Clara valley and a few smaller locations of similar climate and soil.

The California prune known and planted as the French prune or Petite Prune de Agen, is known to commerce as the California prune, and as such is distinguished from other sorts of much inferior quality grown in less favored States.

The Italian prune grown in the north has nothing in common with the California prune except that at a much lower price it has a place in the prune market, where price is of more consequence than quality.

Leads the World.

The Petite Prune de Agen is a sweet prune, rich, meaty, very palatable and nutritious, healthful and more economical than the sour sorts. It easily leads the markets of the world from the quality standpoint, and as it requires little or no sugar in preparation for the table, economy and health go hand in hand in its use.

Location.

The prune tree is not hardy in colder climates than California; in fact, after many years it is being discovered that the territory wherein this fruit may be grown to perfection and in quantity to make its culture profitable is more limited than was at first supposed.

Even in our favored valley many prune trees are being pulled out each year in locations where for various reasons the quality or quantity was too low, and while many acres of new land are planted where the indications are for success, it is not probable that there will be any overproduction of first-quality prunes for at least many years.

Production.

That large crops of Oregon prunes, in conjunction with large French crops, may occasionally cause the price to drop too low for comfort to the grower; such conditions must be only temporary, for every time they occur the grower of small, poor or otherwise inferior fruit will feel the pinch when it falls below the cost of production, and out will come the trees.

Two years ago when the base price fell below 2 cents, some orchards were not picked at all, as the fruit would not pay for the labor of picking and drying. Such orchards were usually on dry uplands, over hardpan, alkali, etc., which so starved the crop that it could not reach the paying point. Many such orchards have been pulled out and a good crop of grain or hay raised.

But with the better prices of '06 and '07 new life in prune planting has appeared.

At this time trees in lots of 1000 cannot be had, the limited stocks of the nurseries having been exhausted. It is safe to infer that about all of these now plantings will be on good land, or at least near by orchards that have proven to be thrifty producers of A1 fruit.

Begins to Look Good.

With prunes on a 5-cent basis people with money to invest can hardly be criticised for reaching out for some of the easy money that such a price insures. We are also learning, as the years go by, how to help our trees to become more vigorous and prolific. Some of the early plantings that have had little care of the right sort until the tops were a mass of dry branches, ideal nesting places for the birds and breeding places for scale, spider and other vermin which, if not exactly detrimental to the life of the tree, were at least not good to look at, and in any case the product was not salable as prunes.

Some such orchards have been cleaned up, new growth has taken place, and the trees are getting ready to bear a crop of fruit again.

Sun Better Than Evaporators.

Some of the older fruit growers in the valley will remember the era of Coast prunes and the evaporator boom, both gone some years past.

The Coast prunes were good to look at and tasted good when fresh. The trees grew and bore well. But the fruit must be evaporated or shipped to a more sunny clime. I remember a packer who saw his opportunity and purchased largely of Coast prunes. They were put on the trays and apparently cured, dumped into the warehouse, then taken out and cured again, then dumped on boards in the sun and cured some more, and afterwards very unwisely packed and shipped East. It was while in transit that the cool and moist atmosphere of the coast again asserted itself, and they were on arrival turned down. They were also turned out and dumped.

It is by such experiences that we learn that climate has much to do with the growth of the prune. In fact, we think that we know that a climate too cool and moist will not produce good prunes, nor will its opposite—a dry and hot climate. Another thing we think we know, and it is that prunes well ripened and cured slowly in the sun, make a better grade of fruit than can be produced by any evaporator or even the ovens of France.

SCORCHED AGAIN.

Woodin & Little's big pump and gas-engine house "got theirs" with every body else at the time of the great San Francisco fire and after getting nicely down to business at 531-536 Mission street were given a Christmas present of another scorching on Dec. 26. Fortunately the scorching was not severe, at least not enough so but what the firm is now located at 70-72 Fremont street and are prepared to fill all orders promptly.

San Francisco surely has a nervy bunch of business men who are proving to the world that something which would appal the ordinary mortals has not discouraged nor disheartened them.

Woodin & Little are still handling the famous Gould's Pumps and the Standard Gas Engines, besides all kinds of pump and irrigation supplies.

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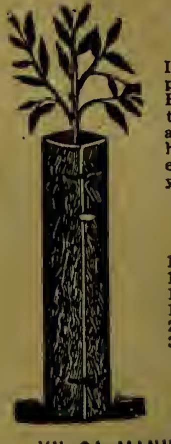

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Curing and Marketing Prunes

Written especially for the California Cultivator.
BY J. LUTHER BOWERS, MORGAN HILL.

While at the State Fruit Growers' Convention at San Jose a few years since, we were shown some beautiful cured prunes put up by Mr. Bowers. They were delicious fruit and caused much comment. The question was asked often: "Why can't all California prunes be put up like that." It will doubtless be a long time before all will be, but Mr. Bowers gives us an idea regarding the manner of curing. Note his distinction betwen "cured" and "dried" prunes.—Ed.

TOO MUCH stress cannot be laid on the word cured. There is a vast difference between a cured prune and a dried prune. To cure prunes, I would first have my ground under my prune trees in the best possible shape, very smooth and fine. Let the prunes get fully ripe and let them fall of their own accord to the ground. At this stage they are full of sugar. Pick up every five days. The period of ripening will be from 15 to 25 days. Dip the ripe prunes in boiling water to which one pound of the best concentrated lye has been added to every 50 gallons of water, changing the water every time two tons of fruit has been dipped. Never let the ripe fruit remain in the box over 24 hours, for should the ripe fruit go through a sweat, no power on earth can cure it, it may be dried but not cured. Remember this. After being dipped, spread on trays. When the prunes can be gathered up in the hand and given a gentle squeeze, then open the hand quickly and if all the prunes separate, they are then cured—but not dry.

The prunes are then ready for the cans. At this stage they are graded in three grades, viz.: No. 1, No. 2 and No. 3; 38 to 43 are No. 1, 58 to 63 are No. 2, 78 to 83 are No. 3. After grading, the fruit is filled into tin cans, holding 1¼, 2½, 5 and 10 lbs. each. The prunes are pressed into the cans solid, with a gang press, six cans at a time, the cans then go to the double seamer, here the tops are double seamed on without heat or solder. The cans then go to the sterilizing vat, here the cans are cooked for forty minutes.

This finished goods is now called "Caprues;" one pecularity of these goods is, the can has not been exhausted, or rather the air has not been taken out. There is no vacuum. Can, air and contents have all been sterilized and the fruit will keep for years in any country or climate. These goods have been packed for the last three years and have been shipped to almost every State in the Union, Canada, Germany and the Philippine Islands, and not one spoiled can has yet been reported. Nothing but praise is everywhere expressed.

Severe Test.

One of the severest tests the goods have stood, was the one made by the University of California, under the directions of Prof. G. W. Shaw. Under his directions, on Oct. 19, 1905, I packed a few cases, two of these cases were sent to the Philippines, and left there a year and returned and opened sixteen months after they were packed, and found to be in as perfect a condition as the day they were packed. When I first began to pack them, three years ago, I placed the price on the can, during my three years of experimental work I have not had any thing to come up to cause me to change this plan. During my trip East last year, introducing the goods, I found boxed prunes selling higher than my highest price for "Caprues."

The quality of "Caprues" is so far ahead of a processed-boxed prune that it would be folly to make the comparison. A very fine date placed by a poor quality of prune would be about how it would stand. The prices on the cans are as follows: 1¼-lb. can, 25c; 2½-lb. can, 40c; 5-lb. can, 75c; 10-lb. can, $1.40, other grades slightly lower. These retail prices are on the label, and will always be the same, regardless of crop conditions. The No. 1 label is buff, No. 2 is blue and the No. 3 is green. The price will be the same in Boston and Los Angeles. It is only a question of time and patience until the fancy trade will require all high grades of prunes to be made into "Caprues."

DECIDUOUS FRUITS IN NORTHERN CALIFORNIA.

Continued from First Page

sprinkled over the tree. The young worms are coated with a moist covering, which is exuded by them and which is necessary to their existence; when they are dusted this moisture is dried up and the worms no longer able to maintain their hold on the leaves, drop to the ground and perish. The red spider is another serious pest which often appears in destructive force during the dry summer months. This when on the cherry should be treated to a dust bath of dry sulphur. This has been found the most effective method of treatment for red spider on all forms of deciduous trees.

Pears a Surprise.

The pear crop of the past season has been somewhat of a surprise to our orchardists. The ravages of the blight for many years past have had the effect of greatly lessening the pear area in this State, and during the past three years it has spread with devastating force among the great pear districts of Northern California. It was feared that pear growing in this State would soon be a thing of the past on account of the spread of this disease, yet despite its destruction, there were shipped this year through one agency 1039 carloads of pears. Beside these, large quantities were sent to the canneries. Very little new planting of pears has been done of late years owing to the fear of the blight, and it is without question that pear growing here will rapidly decline, unless some effective remedy for the the diseased wood, as recommended by Prof. Waite, and as carried on under his direction is, undoubtedly, the most, as it is now the only effective remedy, but this requires unanimity of action, and an intelligence not to be found among all gorwers. And where orchards are in control of Chinese or Japanese it is practically impossible to get effective work done. It matters not, therefore, how thorough one man may do the work, or how much intelligence he may bring to it, if he has a negligent neighbor, who either through ignorance or indifference, neglects to properly cut out the blight, the work will be for naught. Very many isolated orchards have been saved, at least temporarily, by the cutting process, and upon these we must rely for our pear crops. It is not uncommon for diseases of this character to "run their course." That is, finding new territory they commence the attack with great virulence and afterwards, from some counter movement in nature, die out to some extent, and while still remaining in the country attacked, become less destructive. It is to be hoped that this may yet be the history of the pear blight, and while we may not hope to get rid of it, we may at least hope to have its destructive force reduced.

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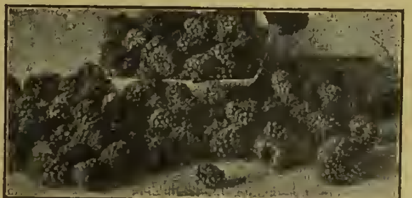

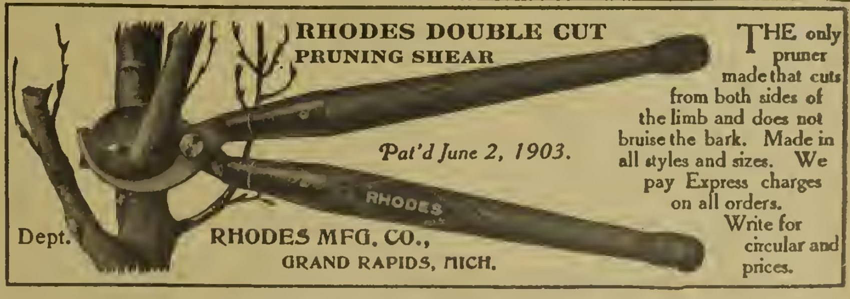
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IRRIGATED vs. NON-IRRIGATED FRUITS.

The impression prevails very generally that fruits grown by irrigation are not as highly-flavored as those not irrigated, and, therefore, the conclusion is reached that as good fruit cannot be grown by irrigation as by the ordinary rainfall.

On the contrary, a careful investigation of the subject will show that, by the intelligent use of water, coupled with proper cultivation, the finest flavored fruits of the world are produced. Where irrigation is a necssity, as is the case in parts of California, the conditions are similar to those of a great conservatory, and the intelligent fruit grower is master of the situation. He gives or withholds water at pleasure, or as he finds that his trées require it, and is not subject to the injuries caused by prolonged drouths, or excessive floods, as those who depend entirely upon the natural rainfall.

Unfortunately, not much attention is given to the proper use of water by the average cultivator, especially if an abundance is at his disposal, for then he is inclined to use it as a substitute for cultivation, to the ultimate injury of both fruit and trees.

Fruit grown by irrigation (so called) was first brought to the notice of the eastern consumer by importations from California, soon after the completion of the Central and Union Pacific Railroads.

The pears were large, very handsome, but deficient in flavor, and as it was known that irrigation was practiced in California, the deficiency in flavor was at once attributed to that, whereas, it had but little to do with it.

The earlier orchards of this State were planted along the margins of streams, or where the land was naturally moist, and water near the surface. The almost perpetual summer, and freedom from all kinds of insect pests, together with the unlimited natural supply of water available to the tree, produced the large, handsome fruit at the expense of quality. This is really non-irrigated fruit.

Where trees are planted upon mesa lands, with subterranean water fifty to one hundred feet from the surface, irrigation is a necessity, and, if judiciously used, the finest-flavored fruits are here produced.

Irrigate deciduous fruit trees thoroughly as soon as the crop is removed. This is of special importance if the winter rains are delayed; for, without sufficient moisture in the soil, the roots will not perform their duty in preparing the material for the next season's growth and fruitage.

FERTILIZE YOUR LAND.

"Feed the land and the land will feed you" was the maxim of the past, but the latest investigations have added a new rule, which is more pertinent and forecful, to-wit, "Feed the plant and the plant will feed you."

This means that we should apply the fertilizers intelligently, such as the plant requires, and at such times as it can take up and assimilate the food offered. It would be just as sensible to dump a month's feed before a horse, and tell him to help himself for that period, as to cart a year's supply of fertilizer into the orchard and expect the best results. In both cases a large percentage would be wasted, before it could be utilized by either animal or plant, and another large percentage would not be utilized, because not needed by either horse or plant.

The cost of fertilizing the orchard is a serious one to all fruit growers. It may be minimized by the use of peas, vetches and other green plant growths which supply nitrogen. We notice some of the most healthy groves in the country are those which have been fertilized with peas, to which has been added a reasonable amount of commercial fertilizer.

Finely ground meal from unsteamed bones is a complete fertilizer for fruit trees, as it contains the three principal ingredients required, viz., phosphoric acid, potash and nitrogen. It is not quite as active as the acid phosphates, but more permanent in its effects.

Acid phosphate is simply bone meal dissolved in sulphuric acid, to which is added gypsum, ashes, or other similar material as a drier. The practice of adding to this nitrate of soda is wasteful and unnecessary, as the nitrates are better applied separately and in more frequent doses.

AVERAGE PRODUCT OF FRUIT TREES.

A new comer to California asks, "what may one expect as a fair average production of trees in full bearing, and under proper treatment?" Given satisfactory conditions trees should average in the orchard:

	Tons per acre.		Tons per acre.
Apples	4	Walnuts	¾
Apricots	5	Almonds	1½
Pears	5		Boxes per tree
Prunes	6	Oranges seedling	12
Peaches	5	Oranges budded	6
Figs	8	Lemon budded	5

Of course, there are seasons when the output will be greater than is represented by these figures, then again there may not be so much, but the general average is as nearly what we quote as can be safely estimated.

INSTITUTES.

Conductor Neff announces the following Institutes: Carpinteria, Jan. 31 and Feb. 1; Nordhoff, Feb. 3, 4; Santa Paula, Feb. 5, 6; San Fernando, Feb. 7, and Burbank, Feb. 8.

PLANTING AND IRRIGATION.

It is a bad practice where irrigation is necessary, to plant deciduous fruit trees among citrus or semi-tropical fruits, or to mix deciduous fruit trees when they ripen at different periods. It is much better to plant each separate, and give or withhold water according to the needs of each.

Fruit trees of all kinds that have been properly cultivated will stand hot, dry weather successfully until Christmas, when they should have water if the rains have not commenced at that time.

Those who contemplate setting out deciduous orchards should begin now to perfect their plans for the coming season's planting, by getting the ground in condition and by deep plowing. A thorough preparation of the soil with an intelligent working it off is one of the first things to do, and nowhere will thorough, intelligent work count for more than in planting an orchard. We cannot be too emphatic in urging an early selection of strong, healthy trees from home nurseries, we mean from nurseries in California where the reputation of the seller is known and where you have an opportunity to inspect the trees as they stand. Take delivery trees, at the time they are dug; wherever possible see that they are carefully taken up and the roots uninjured and set as soon as received. By so doing the vitaliy of the tree will not have been lowered by the transfer.

In this connection recollect that now is a splendid time to make the application of all kinds of manures just before the heavy rains. If possible, clean up everything around corrals, stables, chicken houses, etc., as well as gather all old rubbish fit for the purpose and apply to the soil and let the early rains wash the active properties of it into the soil. A moderate dressing of artificial fertilizer is also beneficial at this time, but nitrogen, if put on at all, should be in small quantity, owing to its liability to be leached out of the soil by heavy rains.

THE NEW YEAR.

The Cultivator can see the signs of a prosperous year for California. Population by immigration is steadily increasing, and the charcter of the people coming into the State is of the highest. One bright omen in this connection is the fact that a large per cent of the new population is settling on agricultural lands and fruit lands of the State, thus adding largely to the producing classes. More fruit lands have been sold this winter, so far, than were sold last year, hence we regard the outlook as promising for the continued development of the State. We congratulate our readers on the successful year past and wish them a happy and prosperous year in 1908.

Shop Talk

THE DECIDUOUS SPECIAL of the **CULTIVATOR** is herewith handed to you and we are sure you will appreciate its value to all interested in **CALIFORNIA** deciduous fruits. It is a branch of fruit growing which is almost exclusive in some sections, but one which is capable of indefinite expansion, for while it is represented in every section of the State, there are some excellent locations which, as yet, are unused for the purpose.

Upon California will fall, in ever increasing orders, the demand for fruit, and it is up to the ranchers of the State to avail themselves of every opportunity to increase their knowledge of conditions and methods which will help them to accomplish the most.

The **CULTIVATOR** endeavors to help in every way it can and wishes to act as a medium through which the most practical and well posted men of the State can give the results of their experience. Each reader can be of value to every other reader by keeping in mind and using the question department of the **CULTIVATOR**, and also by mentioning to his neighbors whatever is read of value.

We want everyone who is interested to know about the **CULTIVATOR** and to get it regularly if possible, but in the case of this issue, if you have anyone in mind to whom it would be of value, we would gladly mail copies to them on request, as long as they last.

Here also is another attractive clubbing offer which we wish to suggest to you:

The World Today	$1.50
Suburban Life	$3.00
Cultivator	$1.00
	$5.50
ALL FOR	$3.00

In ordering, please always state whether same are new subscriptions or renewals.

Agricultural Notes of the Pacific Coast

Northern California

Lots of old hops are being sold as low as 2 cents per pound.

Large plantings of alfalfa will be made at Willows this season.

Many miles of snow sheds along the Southern Pacific have been destroyed by fire.

Woodland is doing extensive power plowing of fields, using the cable system.

The Sonoma County Poultry Association marketed 500,000 dozen eggs last year.

Humboldt creameries paid for December butter from 27 to 37 cents per pound.

Trinity county sheep men are testing the legality of the sheep tax law passed in that county.

Sacramento's mayor is making an effort at having more care given to the shade trees of that city.

Gridley warehouses are busy shipping many cars of grain. About two cars a day are being forwarded.

The Hop Growers' Marketing Organization is gathering strength every day and new sections are adding to its membership.

Healdsburg had a green Christmas in that its market was well supplied with green peas and "garden sass" from home gardens.

Greeks working in the Sunset colonly, near Yuba City, insist on using their old time hoe as they had it in their native country.

There are yet some crevasses along the levees along the Sacramento river which have not been fully protected since last year's storms.

The Department of Agriculture has forwarded from Washington a large number of rose cuttings to be distributed and planted at Santa Rosa.

A centrifugal irrigating pump weighing several hundred pounds was recently stolen from a ranch near Sacramento and taken several miles away.

The business men of Tehama county are taking an active interest in irrigation matters, and holding meetings to discuss means of securing government aid.

Tehema county poultry men are endeavoring to get together and ship poultry to San Francisco commission houses so as to command more profit for themselves.

Hollyberry gatherers near San Francisco have been driven from the mountains by armed guards to prevent the destruction of the shrubbery of the canyons.

Forestry headquarters which have heretofore been maintained at Nevada City will remain where they have been notwithstanding strong effort has been made to secure removal.

Lodi has a grape vine which grows grapes rather larger than the ordinary Tokay, of a light flesh color, and of a very fine flavor. One crate from this-vine sold in New York this year at $5.37.

A suit for damages is on at Sacramento wherein a rancher is suing the State for damage to land because of diverting the current of the Sacramento river so as to wash away some of his land.

Central California

Conductor Clarke held a farmers' institute at Dinuba last Friday.

The capacity of the raisin seeding houses at Selma is six carloads per day.

Plowing by steam is proceeding in a large way on Miller & Lux ranch, Kern county.

The Orchardists' Association at Watsonville held a monthly meeting last Saturday.

Nearly 55,000 prune trees have been sold by San Jose nurserymen for this season's planting.

Modesto nurserymen report great demand for deciduous trees and grapevines for planting.

The returns of the Citrus Fair at Lindsay were such that the management "broke even."

Selma is to have another raisin seeder to be built and equipped before next raisin season.

Poultry keepers about Hollister are agitating the formation of a State Poultry Keepers' Association.

Buyers are already on the ground endeavoring to contract for the coming cantaloupe crop of Turlock.

Soil Expert Mackie of the Department of Agriculture has just completed a soil survey of the Parajo Valley.

The January 1st edition of the Bakersfield Echo gave an interesting review of the agricultural resources of Kern county.

Orchardists wishing to plant deciduous trees at Gilroy find themselves unable to secure sufficient trees for that purpose.

The fight against the peach blight in much of the San Joaquin Valley has been very thorough during the past six weeks.

Modesto shipped 600 boxes of navel oranges this season. Many orange trees will be planted during the coming season.

The shipping of raisins which was discontinued a few weeks ago is now in full swing and Fresno packinghouses are again busy places.

The recent session of the Tulare Grange was an all-day one. One of the principal questions discussed was a State mutual fire insurance company.

The Fruit Growers' Union of Campbell handled about one-third the business of the previous year, but good prices prevailed for the fruit that was handled.

The State Board of Trade is urging fruit growers to use every effort to secure a favorable ruling from the Secretary of Agriculture on the sulphur question.

Shipments of oranges from Tulare county this year will be larger than ever before. It is estimated that the total output from that one county will be about 2500 cars.

At a recent meeting of the Orchard City Grange at Campbell a Christmas tree with Santa Claus and other interesting features were added to the pleasures of the evening.

Several large land owners in the Slough district west of Watsonville are considering the advisability of establishing a drainage district by which a large tract of land is to be reclaimed from overflow.

Southern California

Pomona orchardists are exasperated by orange thieves.

Large planting of walnuts will be made at Duaro, Orange county.

Coachella valley ranchers have made money on onions this year.

Celery for the holiday trade in Eastern markets brought good returns.

Coachella is producing some exceedingly fine cotton in an experimental way.

The canyon road along the river between Rincon and Olive is being improved.

Imperial creamery is found to be too small for present uses and is to be enlarged.

Los Alamitos sugar beet people are plowing and getting land ready for the coming crop.

Extensive trails will be made to the Forest Reserve in Ventura and Santa Clara counties.

Plenty of cars at hand for the citrus output is the prediction for this year's shipping campaign.

Hemet is so pleased with its original rural delivery route that it is petitioning for a second.

The Pomona Poultry Show is on this week, and is making a fine exhibit of high grade poultry.

The acreage planted to sugar beets about Buena Park will be more extensive this year than formerly.

Olive growers at Redlands are receiving better returns from their orchards this year than for years.

Riverside is contemplating more extensive culture of orange marmalade to dispose of waste orange crop.

Forester Harper of Los Angeles addressed the believers in beautifying roadways at Riverside last week.

Orange county has the largest section of land devoted to celery culture of any one section in the world.

Imperial county is planning for a big fair next year to show the great industries of the baby county of the State.

The big San Joaquin ranch below Santa Ana, Orange county, is already preparing for a big bean planting this spring.

A movement is on foot in Orange county to reduce the acreage devoted to celery. The Jap gardeners refuse to join.

The construction of fire breaks in all the Reserves of Southern California will be on a larger scale this season than ever.

From all sections in the southern part of the State come reports of extensive planting of Eucalyptus both for fuel and timber purposes.

First returns from the holiday oranges have been fairly satisfactory though the prices have not ranged as high as for last year's holiday fruit.

A dam is being constructed across the Mojave river near Victorville for the purpose of diverting water for irrigating Mojave desert lands below.

The Producers' Packing Company at Redlands met a severe loss last week in the destruction of its packing house with all graders, sizers, and other machinery.

The Coast

The Idaho State Dairymen's Association is being held this week.

An "all Oregon" fruit show is to be held in Portland January 14 to 16.

This is said to be the banner year for the Hood River apple district.

A Farmers' Institute will be held at Del Norte, Colorado, January 21st and 27th.

The annual Angora goat show is to be held at Dallas, Oregon, January 15th, 17th.

About 100 cars of onions remained in the State of Oregon at the close of the old year.

A 400-acre alfalfa field near Toppenish produced $60,000 worth of hay at two crops.

Glanders, which prevailed to such an extent in Idaho last year, has been nearly eradicated.

Corvalis, Oregon, has shipped over $15,000 worth of sheep to California within the last few days.

In some of the grain growing sections in Oregon threshing has been continued up to the present time.

The Idaho Live Stock Sanitary Board reports the live stock of that State as in a generally healthy condition.

The inspector of Marion county, Oregon, is making tests of spray material being sold to orchardists in that State.

The Clackamas County Horticulturist Society is discussing the building of a fruit cannery to operate on co-operative lines.

The Denver Feld & Farm reports a Colorado farm which produced at the rate of 66.35 bushels of wheat per acre this past season.

The college of Washington, located at Pullman, is conducting a short course in agriculture which will continue until March 13th.

A large stock of Oregon hops has been forwarded to London. The price paid to growers was said to be in the neighborhood of 7 cents.

Oregon sheep growers are somewhat inflated over the high prizes which were secured by their stock at the recent Chicago International.

A special meeting of the Stock Growers' Association of Grant county, Oregon, has been called for the 18th to meet the allotting officer of the Forest Reserve.

Baker County Wool Growers' Association members have decided to make an extensive campaign against coyotes and will commence this month putting out poison.

The State Horticultural Society of Oregon will hold a session which will be addressed by J. H. Reid of Milwaukee, and prominent growers from that State and from California.

The record run for the season for an Oregon thresher is held by J. C. Wright. He closed down December 10th after a five-months' run, during which he threshed a quarter of a million bushels.

The sentiment in favor of a hop growers' organization covering all the hop districts of the Pacific coast and along lines similar to those of the recent California organization, is growing in favor.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

CROLEY'S ***Meat Scraps Meat Scraps***

No Hair **$300 per Sack** *No Hoofs*

Geo. H. Croley - Petaluma, Cal.

Croley's Green Bone, $2.50 per Sack

Ranch Mirasol (Lincoln Avenue Poultry Yards)

S. C. White Leghorns--Mitchell Strain

Eggs for Hatching

Our birds are not the culls and accidents of the fancy breeder, but have been bred for generations for a definite utility type to lay both quality and quantity. They are selected by the Hogan system and mated by Standard requirements. Ready for delivery January 1st. Order books now open.

Carl C. Curtis, Owner, Lincoln Avenue and Ventura St. **Pasadena, Cal.**

ALTADENA CARS

Excelsior Egg Food

The food to feed when you want eggs. None other just as good.

Excelsior Chick Food

Will raise more chicks than any other food on the market. To try it means you will use no ohter. If your dealer can't supply you, write us.

Excelsior Cereal Milling Co., 242 Central Ave., Los Angeles, Cal.

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

POULTRY IN THE ORCHARD.

IT CERTAINLY seems to us that as we go from ranch to ranch and see how little thought the fruit raiser, and especially the deciduous fruit growers, are paying to poultry, that a few lines along this line will be in order. Many ranchers upon being asked if poultry hurts or in any way interferes with the crop of fruit will say that it benefits the fruit or rather the orchards, but that they have no time to bother with poultry, as fruit pays better. They never stop to think that if they made corrals for their poultry in their orchard that their crop would be still better. If poultry will pay where artificial shade has to be provided, will it not pay better if they can have the run of the orchard, where shade is plentiful during the warm days of summer and early fall. But as the trees drop their leaves it is getting cool, and the young stock has grown until shade is not so much needed. The early rains bring the worms to the surface where the ground is cultivated. They are turned up and are eagerly devoured by the chicks.

Many, many grubs are picked up by poultry that would bore into a good, healthy tree, causing not only damage to the tree and fruit the coming season, but making extra work in saving or restoring the tree to its normal condition.

An Easterner's View.

In talking to an Eastern poultryman and fruit grower, he said that he had carefully studied the conditions of his orchard and was thoroughly convinced that it paid him to have his poultry yard in his orchard for the benefit it did his orchard. The fertilizer alone was worth the cost of keeping the poultry.

I have known many to buy fertilizers, paying a liberal price for them, besides the time of hauling and spreading, when if they had secured a good flock of birds their orchards would not have needed any extra fertilization.

Two of the most successful poultry ranchers we know of sell all the droppings from the houses at a good price. One said he considered he got more than it was worth, but he could sell twice as much if he had it.

This only goes to show the successful fruit growers, who have studied the question of fertilization and made an analysis of poultry droppings, know that as a fertilizer there is no manure that equals it.

Good for Poultry.

We have given a few reasons why poultry benefits the orchard. Now we will try and point out a few advantages of the orchard to the flock. In the first place, it is generally conceded that for a flock to be healthy they must have exercise and be contented.

If your orchards are not fenced you can arrange an inexpensive, convenient, movable fence, with poultry netting, either fastened to the trees or made in panels, bringing the ends together and nailing. A brace can be put two feet from bottom and run to the ground at each joint or connection to keep the fence from blowing over. These corrals can be moved from one place to another as desired, either to cultivate or give the poultry fresh runs.

If these corrals are in the way or interfere with cultivation they can be taken down very easily while the orchard is being cultivated, but should be replaced and poultry turned in as soon after cultivation as possible, for this is when the flock gets the most benefit of the orchard. Nothing is better for a laying hen or young stock than insects and grubs.

In the fall when the leaves begin to drop a few handfuls of grain scattered among the leaves will furnish exercise for the birds and will do them a power of good scratching after it. Young stock seems to be stronger and grow faster when given free range, so if you have room let the youngsters have the run of the orchard, and we know you will be doubly paid, as orchard, flock and pocketbook will be in a more healthy condition.

• • •

AROUND THE YARDS.

If you are not prepared for winter, disastrous results will follow.

* * *

Trap nests will show you how to breed from your best layers.

* * *

Begin your hatching early, as the early birds catch the high prices, also the prizes.

* * *

A good layer is usually nervous; care should be exercised so that she may not be frightened.

* * *

An ideal bird for winter laying is a pullet mature by November first, strong, vigorous and of good laying strain.

* * *

Hens like broken or whole grain better than mixtures of fine, dry materials; yet they do not dislike the latter.

* * *

A good hen will lay about 175 eggs per year, and at the present prices there is a handsome profit from this source, and the hen will sell at that end of the year for almost or quite as much as her food will have cost.

* * *

It is evident that the secrets of egg-production consist in a good supply of grit, good health, plenty of exercise, pure food, green food, fresh water, cut clover hay and green cut bone, freedom from mites and lice, regularity in feeding, cool houses in summer and warm ones in winter and breeding only from good healthy vigorous layers.

* * *

See Yourself as Others See You.

One of the cutest and most attrac-

Chamberlain's Perfect Chick Feed

World's Chick Feed of To-Day. The only original **Dry Chick Feed.** All others are worthless imitations. **Chamberlain's Perfect Chick Feed** was used exclusively at the great St. Louis World's Fair during the 7 months. This is the highest compliment paid to any manufacturer of poultry food in the world. Perfect Chick Feed also endorsed by the U. S. Experimental Station and the Columbia School of Poultry Culture. All the leading poultry men of the country use Chamberlain's Perfect Chick Feed on its merits.

NOTHING JUST AS GOOD.

GERMAIN SEED CO.,

Pacific Coast Agents. LOS ANGELES, CALA.

SPECIAL PRICES ON TON LOTS.

LILLY'S BEST
HOLLY
CHICK
FEED

A nourishing, wholesome and complete food for young chicks. A mixture of eleven different grains proportioned to supply the food needs of growing chicks and to fully nourish them.

These letters verify our claims.

"I have about 600 chicks and find the Holly Chick Feed superior to any chick feed on the market." O. A. AHRENS, Gilroy, Cal.

"We used your Holly Chick Feed and like it quite well." A. H. CANTRELL, Meadowdale, Wash.

"Holly Chick Feed is all right and if my chicks do not grow I will look elsewhere for the reason." D. O. BRUNNER, Spokane, Wash,

Sold by Dealers

Made by
The Chas. H. Lilly Co., Seattle

Maltese Hen Pigeons

Runts—All Colors, Blue, Silver, Red, Yellow. write your wants.

W. H. Elliot
728 N. Ave 66, Los Angeles

You want the Breed That Lays

ear around and brings $1.00 each when sold arket? Our **BUFF ORPINGTONS** are that kind. e for show record never equalled on the ic Coast, Catalogue, and prices.

Mr. and Mrs. W. S. Sullivan
Agnew, Santa Clara Co., Cal.
V. P. Nat. S. C. B. O. Club.

Black Minorcas
Exclusively

Show Record at Los Angeles, January, 1907, 5 first prizes, 4 Seconds, 4 thirds, 3 fourths, 3 fifths. Also two Silver Cups. They will make money for you. Stock and eggs for sale. Catalogue free.

H. A. Wheeler
Box 123, Lordsburg, Cal.
Successor to Perham & Wheeler

Newbert's White Leghorns

he best in the State. I proved it at the last Fair, winning four of the five firsts from est breeders in the State. Hatching Eggs, hundred, $1.50 and $2.00 per setting.

1. Newbert - Palmetto Heights
Sacramento, Cal

SLOWS REDS EXCEL
le Comb - Rose Comb
HODE ISLAND REDS
Red Bantams
Monrovia Cal
HER POULTRY YARDS

WINSLOW'S REDS The bird for the Farmer and Fancier.

Trios, Pens and Male Breeders for sale.

Red Feather Poultry Yards
Dr. C E. Winslow, Monrovia, Cal. Send stamp for Red Standard.

te Leghorns Buff Orpingtons
Black Minorcas
Partridge Wyandottes

Poultry Show, 1907, with 20 birds on dise took 14 prizes, four firsts. Young stock e. Eggs in season.

SCOTIA POULTRY FARM, Fowler, Cal.
& Darling, Proprietors

aldwin's White Leghorns

st prizes San Jose '06, and State Fair '07
Three First Prizes San Jose, '07

atalogue of heavy layers and finer list of or hatching on application.

Frank E. Baldwin
ashington Ave. - San Jose, Cal.

pargur's Trap-Nested
hite Leghorns

$1.50 per 15, $7.00 per 100. I. R. Eggs, $1.00 per 13, $5.00 per 100.

H. G. Spargur, Soquel, Cal.

DE'S RHODE ISLAND REDS

The World's best layers. Our fold- r for '07 is ready. Drop a postal to
Shade San Bernardino, Cal.

TE AND BUFF WYANDOTTES
Golden Sebright Bantams, prize winners
Stock and Eggs in season
Dillingham, Box 67 San Gabriel, Cal

Poultry Show Dates

Los Angeles, at Chutes Park, Jan. 6-12, 1908.—Second Annual Exhibition Breeders' Association of Southern California. Dr. Winslow, president; H. A. Meserve, secretary. Birds will be received January 1st. Judged by score card and awards read before public is admitted Monday, January 6th.

Pomona, Cal., Jan. 6 to 11, 1908.—First annual show of Pomona Poultry Association. Write C. C. McKey, 372 W. 2nd St., for remium list.

tive little pocket pieces we have looked into for a long time is a hand mirror in the shape of an egg, on the back of which are three little chicks printed on celluloid in colors. It is issued by the progressive poultry supply house of Henry Albers Co., of Los Angeles, and will be mailed free to any of our readers if you will drop the above firm a card asking for it. You ought to look into this.

* * *

Attractive.

One of the most attactive circulars to reach our desk hails from Orpington Reservation, where black and buff Orpingtons are bred in the purple.

The booklet is printed on fine plate paper illustrated with half tone illustrations made from photos of birds on the reservation houses and yards. Ross & Tate enjoys the reputation of having the best equipped and down-to-date poultry plant in the southern part of the State. If you are unable to visit the reservation and want to get an idea of this plant just send a postal card to Ross & Tate, Altadena, asking for the circular, mentioning the Cultivator and it will be mailed free to you.

CHICKEN INFORMATION.

There are six principal classes of poultry; namely, chickens, turkeys, geese, ducks, guineas and pigeons.

They form the sources of three kinds of products—feathers, meat and eggs.

The first named class supplies nine-tenths of the poultry products of the country.

The next three classes—turkeys, geese and ducks—are raised almost wholly for their flesh, which is highly prized, especially during the holiday season.

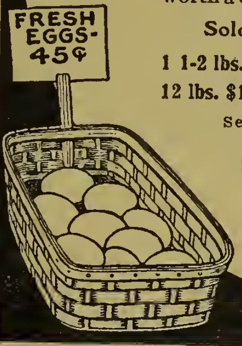
The guinea forms an unimportant group. So far as the commercial products are concerned, they have neither popularity nor merit.

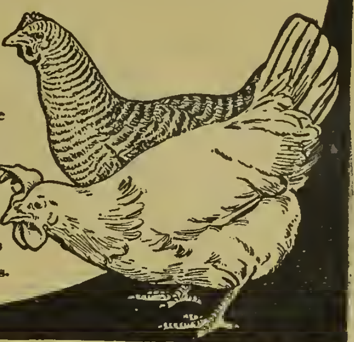
However, when thrown with another flock of poultry, they render valuable service as sentinels.

The pigeon forms a small, though by no means unimportant class. The highly-forced young pigeon, popularly known as the squab, finds much favor with certain classes of people. The popularity of the squab is likely to endure, for its flesh is tender, nutritious and wholesome.

Chickens have been divided into three groups, each comprising many breeds.

These groups are: First, the Mediterranean, egg producers and non-





When Eggs Are Eggs

How do you manage your poultry business? Are you content to gather a moderate supply of eggs in springtime when prices are low, or do you aim to get your greatest number during the winter months when prices are up and "eggs are eggs?" The way to succeed with hens is to do what others *don't* do. When your neighbors' hens are on strike, then see that yours "get busy."

If you will begin *now* to feed Dr. Hess Poultry Pan-a-ce-a your hens will not stop laying at all. Of course the moulting season is an "off time," but even then Poultry Pan-a-ce-a will make a few eggs, and if you continue to give it regularly, you will get an abundance all through the cold winter days when others get none.

DR. HESS
Poultry PAN-A-CE-A

is the prescription of Dr. Hess (M. D., D. V. S.) and is composed of elements which assist digestion, make good blood and cleanse the system of clogging poisonous matter. It is also a germicide and *prevents* poultry diseases. It has the unqualified endorsement of poultrymen in the United States and Canada, hastens the growth of young chicks and helps fatten old or market fowls. A penny's worth a day is sufficient for 30 hens.

Sold on a written guarantee.

1 1-2 lbs. 35c 5 lbs. 85c
12 lbs. $1.75 25 lb. pail $3.50

Send 2 cents for Dr. Hess 48-page Poultry Book free.

DR. HESS & CLARK,
Ashland, Ohio.

Instant Louse Killer Kills Lice.

THE PETALUMA INCUBATOR CO.,
Petaluma, Cal.,
Pacific Coast Distributers.

Killamite

Kills mites and lice and bugs of all kinds on fowls and plants and about the house. The best insect powder made. In sifting-cans, 10c, 25c and 50c. If your dealer hasn't it, we well send 50c can, or 6 lbs. for $1.00, expressage prepaid.

West Coast Chick Feed

A full, rightly balanced ration, to be fed dry. All pure feed, no filler, no waste; best made. Keeps them growing and healthy. For sale by dealers. If not by yours, send to us.

Made by the
West Coast Mill
818 San Fernando St. (Through to Alameda) Los Angeles, Cal.

FERN PARK POULTRY RANCH

EGGS FOR HATCHING

All Eggs are from good, strong vigorous stock.

WYATT & WOLLITZ, Proprietors
—Breeders of—
Single Comb Buff Orpingtons
White Rocks and
Indian Runner Ducks

Orpington and Rocks $2 per setting; $6 per 100.
Duck Eggs $1.50 per 12.

Write your wants. Correspondence carefully answered.

Box 298. WYATT & WOLLITZ, Corona, Cal.

MISSION VIEW POULTRY RANCH

At the Los Angeles County Poultry Association Show, Dec. 7-14, 1907; White Wyandottes, 1, 2, 4, 5 cks; 1, 2, 3, 4 ckl; 1, 2, 3, 4, 5, hen; 1, 3, 4, 5, pul; 1, 2, 3, 4, 5 Pen; MAMMOTH BRONZE TURKEY—1 adult, 1, 2, 3 yearling; 1, 2 young tom; 1, 2, 3, 4, 5 hen; and 2 on ten pullet pen; 1, 2, 3 pullet.

Out of thirteen possible specials I won ten as follows: The Times cup for best display of White Wyandottes, the Los Angeles Produce Exchange $50.00 silver cup for best display of table fowl, the Henry Albers loving cup for best pen of White Wyandottes, Harper & Reynolds Company's handsome carving set for best display of White Wyandottes, the Superintendent's cup for best display of any one exhibitor of any one breed, a California incubator for best display of turkeys, the Association cup for best White Wyandottes, the National White Wyandotte Club cup for best Wyandottes, all the National Wyandotte Club ribbons for best cock, cockerel, hen and pullet; and in the competition open to ladies only; cut glass vase for hen and ten chicks in a large breed; and cut glass salt and pepper shakers for best bantam hen and five chicks.

I had the largest exhibit of White Wyandottes ever made on the Pacific Coast by any one exhibitor. I raise all my birds and keep forty breeding pens and all my hens are trap-nested.

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HIDING PLACES FOR MITES.

Cracks and crevices are favorite retreats of the poultry mite. Such places are where they will always be found, if at all. The poultry house and all its fixtures should, therefore, be so constructed that there will be few good hiding places for these pests The roosts and nests are where mites are always the most numerous. Have the perches perfectly smooth and see that there are no more joints or cracks than are absolutely necessary. The same thing is true of the nest boxes. Both roosts and nests might well be painted with some thick preparation which will effectually seal up all cracks and then it will be easier to reach vermin with a lice-killing apparatus.

If the roosts or nests are attached to the walls of the building, this often causes trouble because it allows the mites to swarm over the walls of the building. In such a case the cracks between the boards on the inside of the hen house will be found to be filled with mites, which go forth at night to prey on the fowls on the roosts or in the nests. The cracks should be filled up with something that will do the work effectually and permanently. If they are not too large a good coat of whitewash with some of the thickest of the material forced into the cracks will aid in keeping the hiding places filled up. First of all, however, the roosts and nests should be so arranged that they do not come in contact with the walls of the building at any point, and then the hiding and breeding of the pests over the entire plant will be prevented.

In the building of a new hen house, all lumber should be matched stuff and the paint that is put on should cover the cracks effectively. It is much easier to fight lice and mites at the start than after they have secured a good hold on the place. The large, gray body louse stays on the fowl practically all the time, does not multiply so rapidly, is more easily reached and makes far less trouble, annoyance and loss than the red blood-sucking mites, which swarm by millions through a hen house of which they are allowed the undisputed possession.—Agricultural Epitomist.

HINTS TO BEGINNERS.

If only all who are thinking of embarking into any adventure with poultry would take to heart the following advice there would not be so many discouraging failures. It is unfortunate for one to enter into a business and fail because of ignorance or lack of knowledge of how to manage, and it is seldom that it is done in mercantile pursuits, yet hundreds attempt the poultry business under the supposition that anybody can "raise chickens." The fact is that the poultry business requires more skill in management than is required in raising cattle or other large stock. When a farmer has only two or more cows the small number enables him to learn the peculiarities of each animal and become perfectly familiar with them. He knows the kind of food they prefer, and should one of them become sick he quickly detects it and at once proceeds to use remedies, and if necessary, sits up all night to watch carefully over it. With a flock of fifty hens, however, the case is different. Although a flock of such size may not require much more room than one cow, yet there are fifty individuals, each requiring individual attention, and each being entirely different from the others in their characteristics and peculiarities, making it more difficult to understand their requirements. The ordinary farm hand seldom notices the poultry except to occasionally give them a mess of corn, and but few farmers give sufficient personal attention to thoroughly understand the management of the flock so as to derive the largest profit therefrom On the large majority of farms the owners do not know nor realize how many fowls they lose in a year from the numerous causes and dangers, and there are also hundreds of farmhens pay or not. If the beginner who is, perhaps, some person desirous of seeking a living outside of a city, on a limited capital, desires to succeed. he must pursue a course different from that usually practiced on farms. But how is he to know and how can he anticipate the various conditions under obstacles which he may meet? Even a small investment is a great deal when it represents all, perhaps the savings of years; hence the greater necessity of knowledge of all things before going into the poultry business. It is quite possible that a beginner may have great success the first year, but as a rule, such is not generally the case. The only safe mode is to begin with a few fowls, expect no profit the first year and but little the next, devoting the time to learning without incurring much risk, and the success will come later.—Rural World.

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The old fashioned well sweep with [illegible] the past, but on many farms one still finds wooden pumps—squeaking wheezing, "craky" affairs that are out of order half the time.

No up-to-date farmer should be satisfied with wooden pumps. The pump is in such constant use that it should be of the very latest design and without a sliver of wood in it anywhere.

A high grade iron pump practically never wears out, and may almost be said to improve with age. The best pump to buy is one with a glass valve. Well pumps, power pumps, spray pumps and tnk pumps thus equipped can be purchased of any hardware or implement dealer.

Wooden pumps soon rot and becom unsanitary. If you are thinking of buying pumps, think twice before you put any money in a wooden one. Get the best iron pump you can find and will prove a source of satisfaction well as pure water.

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Growing Eucalypts

Written especially for the California Cultivator.
BY W. A. T. STRATTON, PETALUMA.

The article below is written by one of the pioneers in eucalyptus culture. He has grown trees in all stages, and is now engaged in producing young trees at his nursery at Petaluma. There are some good points to be learned by reading Mr. Stratton's article.—Ed.

THE young plants of eucalyptus trees are not so easy to produce as those of many other trees unless it e the Blue Gum, which is comparavely easy. Many other varieties are ected with damping off and other oubles, which sometimes gives an xceedingly low percentage of plants om the seed used. But for the benit of those who may wish to make trial of seed planting, I give an tline of the work.

oil.

We use but a strong red loam which obtained from roadside, or pasture eld, that has not been cultivated. is we worked through a number sieve (four meshes to the inch,) ich thoroughly pulverizes it or removes all the coarser particles. Of is we take four boxes, then one box manure which has well decomposed, and work through the same eve. We then take one measure of nd, which is the purest, fine creek nd, clean and well washed. This screened through a number 8 sieve remove the coarser particles. This ixture, of course, is well mixed by oveling together, and used for filling e flats.

xes of Flats.

The flats should be three inches ep. Ours are uniformly made 14x21 ches inside measure.

Fill the boxes with the prepared il, firm the corners and sides, and ooth off the surface. This should done very carefully so as to give even, level surface for receiving e seed. Scatter the seed carefully d evenly over the surface. It is ell to firm the seed down into the il so as to insure actual close conct. Now apply the covering, which ould be the same kind of sand as at which was mixed in the soil. is covering should be about oneghth of an inch deep. Water carely and very lightly with fine spray, e the seed may be washed up to e surface.

Place these boxes in a warm but ady place, and cover with sheet uslin or lath frame. The greatest re must be exercised in keeping the ed and young plants supplied with oisture. Do not let the surface get dry at any time, neither should be made too wet.

When the young trees are two or ree inches high, remove the boxes full sunshine and see that they do t suffer for water. One bad wilt es a lot of stunted trees which will ver recover.

w to Plant.

The first step in successful planting to put the ground in the very best ssible order. You cannot overdo cultivate well and deeply. If a thing worth doing at all, it is worth doing ll. This all-important work, in the st stage of our work, is of the greatimportance. There are many places very many ranches that cannot be wed—as among the rocks or on ls so shallow that nothing will w. Among rocks the soil must be ked up in places designed to plant young trees at least three or four feet across, and as deeply as possible. In localities having shallow soil, or no soil at all, the pick must be freely used. One of the finest groves in this county is in just such soil. Pot holes were dug with a pick, two feet across by two feet deep. Loam was hauled up the hillside to fill these holes made in the shell rock. The young trees were planted under our special instruction. The first year they barely held their own, but the second after they were planted they grew up to 8 and 10 feet high, too, without any irrigation. I have in view another planting of eucalyptus, equally as interesting. It was made on a barren hilltop, the soil so thin and poor that nothing would grow. There was no soil to plow, nothing but a very hard yellow something—not with any name. At my suggestion a subsoil plow, with four horses, was used to plow furrows eight feet apart, the plow beam being weighted down with all the men it could hold. In the finishing off, a deep dead furrow was left to plant the eucalyptus. It was a dismal hope, but they did grow most vigorously and stocky, completely interlocking each other. It's owner now considers it his most valuable acreage.

The young trees, which have been grown in the boxes or flats should be so separated as to permit of being removed with a small bunch or ball of the earth. With a common kitchen or case knife cut down between the plants so as to have a small ball about the tender rootlets, taking care not to break up the little ball. If it is broken, it is probable the tree will not live. If care has been used, this can be done, especially if the soil in which the young plants are has been thoroughly moistened. Of course, if allowed to get too dry, at this planting time, the moment the attempt to cut is made with the knife dry dirt will immediately crumble.

Now, have the hole in which the little tree is to be planted in a dead furrow above mentioned, similar to that with the hole deeply dug and partially refilled with fine, fertile soil, at least enough to pack around the little rootlets. Now place the little trees well down in the hole and firm the soil about the roots, but use care not to crush the ball of earth. Cover with moist, rich soil, say two inches or more deeper than it was grown in the flat. This will place the young tree deep in the ground, but bear in mind the dry weather of the next summer will make it desirable to have the roots down where the sun's rays will not heat or dry out the soil too much. This deep planting is of the greatest importance.

If possible, mulch about the trees with weeds or straw, or anything that will shade and cover the gorund. Of course, the planter must use common, horse sense and make the depth of planting according to the character of the soil and the exposure. The coarser, gravelly soil will always dry out more and take the heat of the sun more than the heavier, more compact soil.

Distance Apart.

The distance apart in planting all depends upon the soil, whether dry or naturally moist. Also the nature of the variety to be planted. In general, I may say that for Blue Gums 10x10 feet, yet many planters in Sonoma county plant 12x12 feet, and some even more. You must also understand that when the soil is naturally moist and deep, closer planting than that is permissible. Shallow and coarser will dry out earlier and a greater distance is required between trees.

Care After Planting.

Do not for one moment think that these hardy trees will thrive on slipshod culture. It pays to do the work well, give them good care, if you wish good growth.

Do not trim the bottom foliage off the trees; let nature do the trimming. When the lower limbs are of no further use, they ripen up and die. By trimming up a tree, the growth is more slender, it becomes top heavy. They need the lower limbs to expand the trunk, nature will do the work very correctly, if you will but let her. It is far better to reduce the top. Don't think for one moment this cutting out the top will make a crooked tree. We have cut the tops out of trees 20 feet high, down to 10 feet; a leader started out, and in a few years no one would know the top had ever been reduced. This shortening in the top is very essential, where the fall rain soaks the ground so as to loosen the surface roots. In heavy winds, many will blow over or lean badly; the heavy foliage carries a heavy wind pressure; in such a case cut out the top freely. Straighten the young tree up; firm the soil around the tree with the feet. As a fact, it is well to go over all the trees before the ground gets soaked with water, and cut the tops out freely before they blow over.

The time to cut these eucalypti for fuel, or for that matter, any purpose, is when there is the least circulation of sap. During the low temperature of November and December they practically stop growing. The timber is then in its best condition for any purpose. Should the trees become frozen, immediately cut them down below the frozen wood. Do not let them remain with the frosted top. There is a circulation of diseased sap that kills the tree.

There are very many in our State who are exceedingly anxious to plant out large groves of these eucalypts. I advise caution—not to the planters of experience, but to those lacking experience. Go slow, do not invite failure. See what your neighbors have done, how they have succeeded. There can be no more money-making work on the farm than a grove of these trees, but to be successful you must study, and learn essential conditions.

Varieties.

As to the varieties and their good points there is sufficient matter under that heading for an entire article, if not for a book. In this grand family of trees are varities that grow on the highest Austrian Alps, and as hardy as an oak and others so tender that they are only suited to the warm tropical climate of the far south. In this family there are sorts that vie with the finest rosewood, mahogany, walnut or cherry. These valuable sorts are as yet in the experimental stages. The coming generation will reap the benefit of our very costly work, a work of love, not of money-making. During my 40 years of this labor of love, I have grown many millions and sent them to all parts of our coast.

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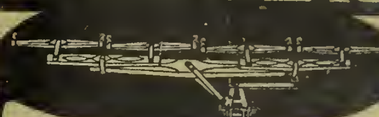

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Cover Crops.

The fertility locked up in the ranch soil is like having a first-class mortgage and using only the interest. Now, today, how many of the fruit growers are constantly expending, never adding to the reserve fertility of the orchards and vineyards. This is living on the principal of your bank account. The growing of a cover crop is again adding to the humus, but at the cost of producing a crop without cash returns. How much better it is to make these crops pay for themselves by feeding them to the cows. Vetches, peas and fenugrek are all good butter making foods. The roots of the cover crops are left in the soil and answer the purpose of penetration and opening up air and water channels as the roots rot. The weight of the roots is no mean addition of humus to the earth and is distributed deeper than the plow can turn under, but not deeper than the roots penetrate. The tops fed green or siloed, or cured into hay, add to the profits of the ranch. Fed to the cows they make butter worth $500 a ton, and yet ninety per cent of their value goes back to the soil. How many oranges will it take to have ten per cent of their value give these returns. Further, cows do not have to be sprayed or cyanided.

Lost Wealth.

How much available plant food is to be credited to a cow? Have you any idea? I fear not, or the cow would be an adjunct of every vineyard and orchard in the State. If the same materials were bought that a cow produces it will cost about eight cents a day, or a cow produces in manure about $30 a year. California is estimated to have about 450,000 dairy cows. Now, it is safe to say, to consider the herds around in the fruit sections as amounting to 150,000 head as available to increase fertility for the orchards and vineyards. Yet how few are using this source of fertility by keeping a herd of cows. The cows that are pastured on grass are adding directly to the fertility of the fields and when these fields in turn become fruit lands the fertility will be there.

Now in California the 150,000 cows that furnish available manure for the fruit lands are adding a by-product amounting to the neat little sum of $4,500,000 if it was used instead of often being wasted. If the manure of all the 450,000 cows was turned into money at the price of fertilizers it amounts to thirteen and half million dollars. A ton of alfalfa hay will feed a cow fifty days, and a quarter of a ton of corn will balance the ration for the same time. Now, if only ten per cent is retained by the cow to make milk and produce her calf it is a light toll to pay. In fifty days it is an ordinary cow, indeed, that will not average fifty pounds of butter or twelve and half dollars. Where cheese making is followed only whey comes back to the farm, there is a reduction of $4.13 per cow, and where milk is shipped away the reduction amounts to $6.40 from the yearly production of $30 worth of fertilizers.

Humus.

The decaying vegetable matter of barnyard manures combines with the potash and phosphoric acid and is almost at once in condition for plant nourishment. The various bacili come into action to break up the inert materials of the soils. Prof. Voorhees gives the following figures that apply here: A well fed cow produces 107 pounds of nitrogen, 87 pounds of phosphoric acid and the same amount of potash. The value of these materials is often lost by careless handling. One experiment was made with manure by dividing it into two lots, one lot was allowed to lie in the yard leaching all the winter. This sample lost 44 pounds in weight and nearly all the nitrogen. The second sample was carefully cared for and showed little loss. The two lots of manure were applied to corn and oats. The manure that was cared for increased the corn yield 59 per cent and the oats 29 per cent, while the leached manure increased the corn yield 36 per cent and the oats 9.5 per cent.

Fresh Manure.

The figures given show the importance of hauling the manure daily to the orchards to save the nitrogen. In California there is an objection to this, found in the lack of frost to destroy the weed seeds. Johnson grass, Bermuda and morning glory abound, and the bedding is full of these seeds. Then does a pit to rot manure before using seem to be advisable? There is a better way. Build a silo. A silo can be filled with weeds and the foxtail, alfalfa, the morning glory, Bermuda and Johnson grass will be well cooked. I have tried to sprout the seeds and joints of these pests after they came from the silo, but have not been able to make them grow. Weeds make poor silage and the cows will pick it over daintily, the waste goes harmlessly out with the manure and makes manure, so that it is well worth while. The land is cleared of weeds by their never being allowed to go to seed.

Balance.

If orchard and vineyard manuring is balanced to add the material lacking in barnyard manure becomes necessary. Every third year use bone meal in the fall followed with a light dressing of nitrate of soda in the spring. If commercial fertilizers are used exclusively the soil loses its mellow character and becomes dry and "fatigued" looking. It loses its water retaining charcter.

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the barns using a good cement floor to keep all the juices. Then an overhead trolley to take the manure away to the waiting wagon adds to ease of handling. Land plaster (gypsum) is freely used in the stables as a deodorant. It fixes the ammonia or nitrogen. All the land in California, one is almost safe in saying, will produce better by the use of gypsum. This way of handling stable wastes does away with the malordorous manure heaps and keeps the flies from making breeding places around the yards.

Mellow Soil.

The dry refractory soils of the State, those that bake and turn up in clods are devoid of humus. These will become mellow and moisture retaining when filled with barnyard manure. I had one vineyard that was never in good heart. One time it would be too wet to plow and then ry out fast; one portion or another was always disgracefully cloddy. It was either bog or clod all the time. The vines had a pinched look and nade one sorry for them, they looked o thirsty for water; all the available nanure went on it and then old alfala stacks bought of a neighbor. Roughly speaking about a third was nanure covered, a third alfalfa covred and the remainder not treated. The results were noticable at once, or, for when the land was plowed he second time, there was no clods nd the vines assumed a brilliant reen on the manured portions. The art under the alfalfa looked well and as not cloddy, either. The untreated portion was cloddy and the ines looked even more disgusted ith life. The treated portion was nellow all season with moisture relned to the surface. This piece of and filled with humus has still an mproved condition after ten years of ropping.

ersonal.

When I had a large dairy and used e manure constantly on the vineards and orchards, the crops were henomenal in quality and quantity. fter the large herd of cows was old the vineyards have slowly lessned in product until they average e same as the neighbors. I know at a good herd of cows once ore on the vineyard, with silos filled ith corn will mean fancy grapes and eavy yields. Intensive farming by rowing corn and alfalfa, buying iddlings and oil cake was a basis profits that were hard to be qualed. Cows were golden in ineasing the bank accounts.

upporting Evidence.

In Germany steers are fed on the gar beet waste to produce manure. he profits are in the manure, for if e steer sells at cost the feeder is tisfied. It is no wonder when merica began to send dressed beef to these markets that the government saw the matter was serious in at it meant more than the loss of a w steers; it meant the crops of the untry. Balance is ever the way ture works, when man tries to imrove on nature's ways he does it at loss. Nature balances the crop proiced and conserves the fertility of e soil—by balancing the animal ting the crop to exact he pay.

What better have you to offer than e cow as a producer of fertility of e soil? Will you pay $1000 a ar for commercial fertilizers for the nd when that amount expended in ain and oil cake for cows will ing back more than the thousand dollars return in butter fat? Grow cover crops, feed them to cows and return the manure to the soil. Feed the land that fed you. When you go hence leave the earth richer, because you have given the few acres thought and care.

REMOVING AN AFTERBIRTH.

An afterbirth that can be removed without force or injury to the cow is in a condition to come away of its own accord.

In removing the afterbirth by main force it is only the body of it and such buttons as are torn off that come away, thus leaving many serious conditions. If the cotyledons or buttons are forcibly torn off, there is great danger of serious internal hemorrhage, as well as leaving a lot of clotted blood in the womb to decompose.

The parts of the afterbirth attached to the buttons are retained and undergo putrefaction, and the buttons torn from the womb leave raw sores, which become infected by the rotting, decomposing, irritating masses of foreign matter, of which a large per cent is absorbed by the system.

By using force, the horns of the uterus may be turned inside out. This will cause the cow to strain violently, and by doing so the womb is often expelled, the result of which is serious and often fatal.

The displacement of either or both horns of the womb will cause the cow to strain for some time. This condition may, and often does, cause barrenness.

It is for this reason that barrenness often occurs when the afterbirth is forcibly removed.

The afterbirth should be allowed to remain until the buttons are ripe and in condition to release it by its own weight. The afterbirth in this way acts as a drainage by keeping the mouth of the womb open. This allows the contents of the womb to escape, instead of being retained by closures of the mouth of the mouth of the womb.

In this case the animal would be compelled to absorb the poisonous matter, consisting of pieces of afterbirth which are always retained when force is used in removing it. Otherwise, the mouth of the womb would close and cause the womb to fill with matter, a portion of which is expelled, causing a catarrhal condition of the vagina, and acting as a hotbed for the germs of infection to propagate and multiply. This is liable to produce barrenness, and infectious abortion, and the cow, by absorbing a large portion of this matter, dries up on her milk, grows thin rapidly and is laible to become a victim of tuberculosis. If she contracts tuberculosis she may then expose the entire herd to the disease.—By Dr. David Roberts, Wisconsin State Veterinarian.

IN THEIR NEW BUILDING.

Gradually San Francisco's big merchants are getting into their new quarters and showing a fine line of goods, and displaying them under conditions more favorable than they could before the great disaster.

The G. W. Price Pump Co. has now removed to its new quarters where abundance of room, new stock and a good light are features which facilitate the transaction of business. The new location is at 16-30 Jessie street, 33-59 Ecker street and 27-37 Stevenson street.

The firm handles the effective and economically run Price Pump, also the Callahan Engine. These pumps and engines are well known to the irrigators of the State, as these two machines have proved such an effective combination in lifting water that they are scattered all over the State.

A letter to the Price Company at the new location will secure a catalogue of the pumps for any irrigator who may anticipate installing a plant.

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The Vegetable Garden

HOW NEW VARIETIES ORIGINATE.

Of late years we have been relegated with stories of wizards and creators in the vegetable world until the common man has come to think that in order to produce something in the line of fruits and vegetables, one needs to be a scientist of the highest order. Burbank produced the potato which bears his name, from a single potato ball while yet a mere boy. The originator of the Concord grape produced this invaluable fruit from a chance seedling and made a small fortune from selling the rooted and other cuttings, yet though he spent the rest of his life in getting up new grapes, he only produced one other of any merit, and that one not of merit enough to be noted as a valuable addition to the family of grapes.

New Varieties of No Known Origin.

It may seem strange, but our most cherished of new fruits had no known originator; they like Topsy "just growed" among a lot of others. The Muir, Lemon cling and King Phillip's cling peach, the Loganberry, Tilton apricot, Eureka lemon, Navel orange are among these.

In the way of melons, we have in California had the Chilian watermelon and the Philippino watermelon just grown up among a lot of others. The hybrid Casaba was brought out by mere chance as was the Angeleno watermelon by myself. There was no attempt on my part to create a new melon. It just grew up among a lot of Chilians. Unlike the Casaba it is not a hybrid, but what scientists call a mutant, or what we common clodhoppers vulgarly term a sport. Hence it is subject to little or no variation, and it is singular fact that coming to us in this way it should stand as it does the peer of all standard watermelons. In color it is a deep red, very sweet and melting, with a spiciness peculiar to itself. It attains a weight of seventy-five pounds; makes hardly any culls. It is a remarkable fact that in spite of the thinness of rind it is one of the best shippers known; a melon of twenty-five pound weight will support a man weighing one hundred and sixty pounds and rarely show a mark. It is a vigorous grower and seems peculiarily adapted for hot and dry climate.

I am writing this to encourage the common people, of which I am but one, to try for something better than we already have. Do not look to the scientist for all things good and new. The large number of our most superlative fruits came to us through chance, not through science, so while we may rest content let us not be satisfied.—J. C. Ostergard.

PEAS AS A MONEY MAKER.

In the warmer parts of California peas can be planted with fair success any day of the year. A good many acres were planted just after our early October rains, and all look very promising. The chances are that peas that are planted this month will come on the market at the time the October crop is just going off the market, and will find ready sale at high prices.

Gardeners who have a large family of children should plant peas, as a twelve-year-old boy or girl can pick them easier and faster than can a grown person. Peas, as is well known, enrich the soil in nitrogen if the vines are turned under; they delight in decomposed granite soil, which is rich in phosphorus and potash on which they draw heavily. The Yorkshire Hero has for many years been the standard on the coast.

Use flat cultivation and keep the weeds out of the rows. When the plants are nearly ready to bloom put some sulphur in a sack and shake between the rows. Remember it is the sulphur fumes that kills the mildew and not the actual contact with the sulphur, and it takes the sun heat to bring out the fumes, so dust between the plants. In the winter time use the best sulphur procurable, as the poorer goods does not vaporize except in very hot weather.—J. C. Ostergard.

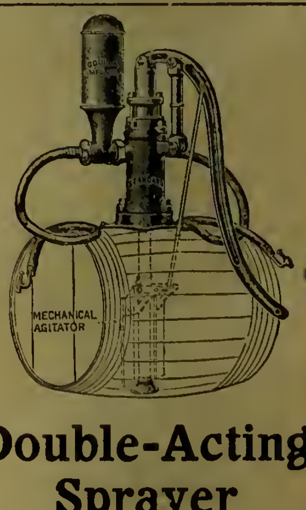
MARKETING CALIFORNIA PRODUCTS.

The Fresno county Chamber of Commerce tenders a very cordial invitation to attend the eighth semi-annual meeting of the Counties' Committee of the California Promotion Committee to be held in Einstein Hall, Fresno, on Saturday, December 14th, 1907.

The theme of the meeting will be "Marketing of California Products." Arrangements have been made with all the railroads for a fare and a third for the round trip on the receipt-certificate plan. Special rates to delegates and their friends have been made by all the Fresno hotels.

On the evening of December 14th, the delegates will be entertained at a banquet by the Fresno county Chamber of Commerce.

David Starr Jordan gave an address at Riverside on Eucalyptus trees, as he saw them at the recent trip to Australia.



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With the Citrus Growers

GUM DISEASE.

GUM DISEASE, or Foot Rot, or Mal-di-goma, has often appeared in different locations of California and in some cases has caused much loss and concern. The State University has placed the investigation of this trouble in the hands of Ralph E. Smith of the Whittier Station, who has been studying and experimenting for some months.

The result of his investigations will soon be given in a bulletin, but as some troubled subscribers have asked for immediate help, Mr. Smith has given for Cultivator readers a little advance information.

"I have your recent letter regarding the nature and means of control of gum disease. The feature of this trouble which needs most to be emphasized is the fact that the disease is not caused by any organism or parasite, but is purely the result of certain unfavorable soil conditions. There is, therefore, no danger whatver of infection or spreading the disease, and the only rational method of control cannot lie in any treatment of the tree itself, but must be brought about by removing or improving the conditions which produce the trouble.

"Gum disease has two principal forms, one seen most commonly in the lemon, consisting of a breaking out on the trunk near the surface of the ground, and the other commonly called 'scaly bark,' which is confined to orange trees and breaks out high up on the limbs, or on the trunk or in any portion of the tree. These two forms of the disease we have found to be identical as to their cause and are simply different manifestations of the same effect as occurring in different trees.

"Gum disease is caused primarily by an irregular water supply. It is found most commonly on heavy, poorly drained ground, on uncultivated ground, trees which are buried deeply in the soil, or on trees standing over shallow hard-pan, or where for any other reason the ground becomes very wet during irrigation and very dry between times. Many individual cases may be found which do not seem to follow this rule, but any extensive occurrence of the disease is almost entirely limited to some of the above conditions. Gum disease itself consists simply in the tree taking up more water than it can take care of, and a consequent breaking out through the bark of this water with the vegetable gum dissolved in it, as a result of mechanical pressure.

"The only rational treatment of the disease lies entirely in securing for the tree a proper and uniform supply of water. On soils which are naturally well drained and not too heavy this may be easily secured simply by regular irrigation and thorough cultivation close up to the tree. Where the trees have become deeply buried, especially in heavy ground, the earth should be dug away from around the trunk down to the main roots and the space filled in with sand or gravel up to the proper height, if this is feasible. In any event, the soil should not be allowed to remain packed about the trunk above the point where the tree was budded. In the case of hard-pan or any other soil condition which tends to interfere with a regular and proper supply of moisture, the condition must be improved by whatever means seems most practical.

"In the planting of new trees on ground which is likely to produce the disease, there are two features which deserve much more attention than they have previously received. These are the use of the best root stock for such ground and the method of budding the nursery trees a foot or more from the ground. In the first place, experience has demonstrated that the so-called Florida sour stock produces trees much less liable to gum disease and with no serious disadvantage. We therefore strongly recommend the use of this stock in heavy ground. High budding is also very advantageous under such conditions, and even on the sweet stock trees budded in this manner are very little affected by gum disease, owing to the fact of the union being well above the surface of the soil.

"As regards the treatment of the tree itself when affected, I would say that if the tree has gummed badly it is desirable to clean out the affected tissue and protect the wound with some covering just as would be done with any other injury. A wax composed of about four parts of beeswax and one part of resin, with a little oil added, the whole to be melted together and put on with a brush while liquid, is perhaps as good as anything for this purpose. Before putting on the wax all the bark that is badly affected should be carefully and cleanly peeled off. It is not, however, necessary to strip the tree very severely where the bark is not entirely dead, as in many cases it will recover of this if soil conditions are improved. It should be particularly understood that this bark treatment is not in any way a cure for the disease, but simply a local treatment for the wound produced by the disease. The only real remedy must lie in improving the soil conditions and bringing about a uniform water supply, which is the fundamental consideration in the handling of gum disease.

"I may say that we are making a very thorough study of this whole matter, which in due time will be published in extended form.

RALPH E. SMITH."

The next Cultivator special will be devoted to Citrus Fruits and will be issued February 13.

New officers of the Cloverdale Citrus Fair Association are W. T. Brush, president, Chas. E. Humbert, vice-president, Geo. B. Baer, secretary, and in addition to the above John B. Cooley and S. Spinschower, directors. The date for the coming fair has not yet been fixed.

West Butte is to have a rural free delivery.

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500 Placentia Perfection Grafted Walnut Trees

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Sour and Sweet Orange Seed Bed Plants
The Finest Lot in California

My sour orange plants are grown from seed off the wild orange trees of Florida. Trees grown on this stock are very desirable for planting in heavy soils or lands that are subject to excessive moisture or drouth. Its most valuable feature is its resistance to gum disease.

My sweet orange plants are grown from seed off very large, old Tahiti seedling trees, thus making the very best foundation to grow an orange orchard on. Don't fail to see my stock before you buy, or address

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Written especially for the California Cultivator.

BY J. H. REED, RIVERSIDE.

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THE distinctly fruit growing sections of the Middle West and far Eastern States are isolated and much scattered; but, as a rule, wherever found, the towns about which they center are the most attractive of any the traveler meets. The fruit industry naturally attracts people of intelligence, culture and good taste. California is already rightfully known as the fruit garden of America. Its fruit centers, at least, settled as they largely are by intelligent, cultured families, should legitimately be especially attractive places, and this should be a land of beautiful towns.

Trees Give Great Beauty.

It is generally conceded that there is no feature of adornment that adds so largely to the beauty of a village country roadway as trees, properly chosen, preperly planted and properly cared for. In fact, it would be difficult to conceive of a really beautiful community without street trees. Yet we find comparatively few California towns, even in our prosperous fruit growing districts, beautiful to any considerable extent with street trees, and where they are found the trees are frequently badly chosen and illy cared for. It is true many of our towns have special spots, sometimes entire streets, well beautified, the result of individual enterprise, but they cover only limited portions of the whole, the rest remaining discouragingly bare.

Too Busy.

In seeking for satisfactory reasons for this we will not find them in the lack of appreciation of the value of street trees for comfort or pleasure, or as an actual pecuniary asset to any city, but rather in the fact that property owners generally are too busy to give the matter the time and attention necessary to make the plantings successful and popular, and our city governments are but just beginning to recognize the fact that street adornment is as legitimate a part of their business as making the streets themselves.

Had we given the same kind of intelligent effort to beautifying our streets as we have to developing our orchards during the past 15 or 20 years, our California towns would now be the most beautiful found the world over, and besides the esthetic value it would have given, the added pecuniary value which would be difficult to estimate.

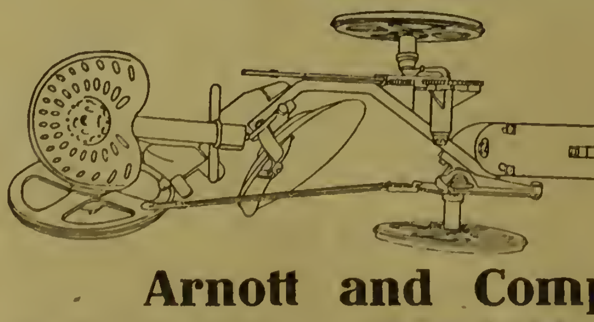
I was riding in one of our most beautiful California towns with one of its prominent business men a few days ago. Passing through a portion of the city which had been early and wisely planted to street trees, and well cared for, I said to my friend. "Supposing all the streets of your city had been planted like this when first improved, as this was, and continuously cared for as this has been, in your judgment, how much would it have added to your present taxable property valuation? He promptly said, 'fifty per cent.'"

That city is receiving taxes now on a valuation of several millions. One-half of one per cent of the annual valuation as the town developed, spent on beautifying its streets, would have made the entire city now as beautiful as the part we were driving through. Had this enhanced the valuation over what it is now but by 10 per cent instead of 50, we see at once the enormous advantage of beautifying our towns while they are building. And this money con-

Continued on Page 55

Sanders-Arnott Disc Plow

ORCHARD PATTERN



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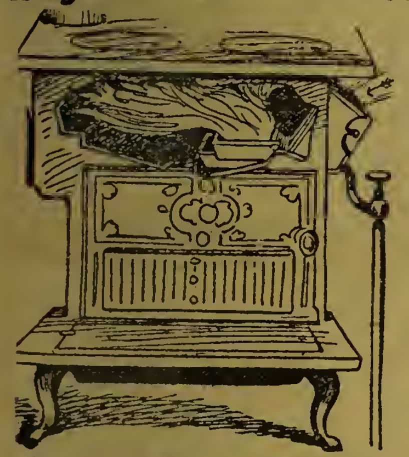

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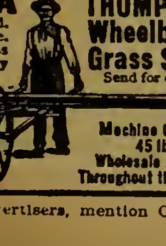

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Machine Complete 45 lbs.
Wholesale Agencies Throughout the Country.

When writing advertisers, mention Cultivator.

THE FUTURE OF THE FIG.

Continued from Page 29.

The fact that these figs do not all mature at the same time is a very important feature and one which will appeal to every fruit grower. It means that a very large crop of fruit can be harvested with a small force of men, or even children at a minimum of expense. These figs must not be picked from the trees, but allowed to drop to the ground of their own accord. This they will not do until they have shriveled and lost their form. Occasionally a fig will be seen which does not drop readily. A slight jar to the tree, or tapping it with a light bamboo pole, will cause it to fall.

The figs are gathered in small buckets, and later are taken to the drying ground in picking boxes. Before placing the figs on the trays, they are immersed in a boiling hot brine for half a minute, containing about three ounces of salt to the gallon of water. After a few day's exposure to the sun they are taken to a room, sealed tight with tongue and grooved lumber, and placed in a large pile. Here they remain for ten days, being turned occasionally. This sweating, as it is termed, equalizes the amount of moisture in the fruit. Overdried figs absorbing moisture from those which are too wet, and vice versa. Before the figs are taken to the packing house, they are washed in a weak, cold brine, the overdried figs, called floaters, are removed as they float to the top, and the others are given a good rubbing between the hands. This removes the dirt, which may have been gathered on them in the course of drying. After exposure to the sun for a half day to allow the superfluous moisture to be removed, they are dumped into boxes and hauled to the packing house.

The packing is done by women and girls. Every effort is made to have the fruit in the best of condition and perfectly clean. Just prior to being taken to the packing table, the figs are given a steam bath. This cleanses them thoroughly and heats the fruit through, and should any insect have laid its eggs in the fruit during the course of drying, the germ is destroyed. No such care is exercised by either the growers or packers in Smyrna, and in consequence of this, the imported figs are not only wormy but are dirty as well, due to the crude manner of handling. The figs are packed in paper cartons holding half pound and one pound each, and are then packed in wooden boxes holding respectively ten pounds each. So much for our method. Contrast it with the method followed in Smyrna.

The Fig in Smyrna.

There the figs are dried on rushes, on an open place in the orchard, where a few trees have died. When sufficiently dried, the fruit is dumped on the ground in any convenient old shed and allowed to remain until enough has accumulated, when it is gathered up and dumped into horse hair sacks holding about two hundred pounds each. These sacks are very strong and quite expensive, and are very desirable for the transportation of figs, for they have no lint like burlap sacks. The figs are carried on the backs of camels to the nearest railroad station, a camel load being two such sacks. The figs on reaching Smyrna are again conveyed on the backs of camels to the fig bazaar, or to the packing houses. They are dumped on the floor in immense piles about three feet deep. Before packing, the figs are first sorted into sizes, and suppled by women and girls, who receive about fifteen to twenty cents a day. The packing is done by men entirely.

Commercial Value of Figs.

To produce a good article possessing merit is always a source of satisfaction, but there is another incentive in addition to this. The industry must be profitable. No business can succeed or make any advance unless it pays. The question arises, will fig growing pay? True, we must compete with the cheap labor of Europe, but this has been the fact in other branches of fruit growing. Nevertheless, we are competing and our fruits sell in competition with the best that is produced in the old world. Although our wages are much higher it must be remembered that our laborers are more efficient, and this, combined with the advanced methods of handling, places us in a position to compete in figs as well as other fruit. It has been demonstrated that Adriatic figs at three cents a pound are more profitable than raisins at five cents. Smyrna figs can be raised fully as cheaply as Adriatic figs, the only additional expense being caprification, but as this does not cost over two cents a tree at the very outside it is a matter not worthy of consideration. It is safe to assume that Smyrna figs, even when produced in large quantities, will never bring less than three cents per pound, and for many years to come, five cents per pound will be a closer average. No class of dried fruit outside of the fig possesses so many healthful qualities, and with a good article on the market, there is an unlimited field open to expansion. With the figs which were being marketed from this State prior to the successful establishment of the Smyrna fig industry there was no hope for the future. It is now conceded that this trouble was due to our not having the right variety and to no other. It does not indicate, because a fig is of the Smyra type, that it necessarily is the variety for drying, any more than that one of our June peaches is a good drying or canning peach.

Fig Land in California.

There are thousands of acres of land in California, in the interior valleys, in which this fig can be grown successfully and profitably. True, the fig will grow any place in the State where the therometer does not go below 18 degrees Fahrenheit. As a commercial proposition, it must have a dry, warm climate during the summer months, and it will, therefore, always find its most congenial location in the Sacramento and San Joaquin valleys and in the foothills where such conditions exist. The trees will grow on either wet or dry soils, but a deep, warm soil with good drainage will always produce the best fruit. No orchard can be raised with so small an expense as a fig. Good cultivation is, of course, important, but outside of this and irrigation, the other expenses are very light. Pruning is a small item, no spraying is necessary for the trees are never subject to attack by insect pests..

The importation of figs into the United States amounts to over $800,000 annually. This alone demonstrates that there is an opening for the development of this industry. There is no fruit which can be put to such a variety of uses as the fig, and the demand for this fruit canned or preserved has never been satisfied, even with the ordinary figs. How much this will expand when this new fig is more widely disseminated, it is difficult to estimate.

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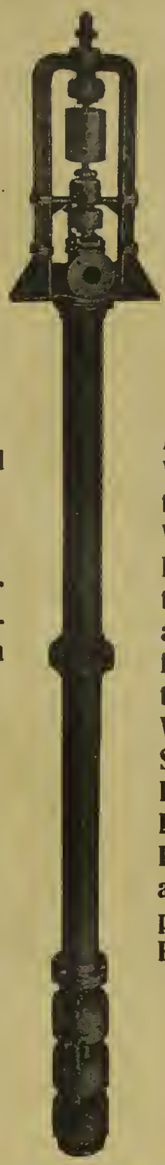
The Latest



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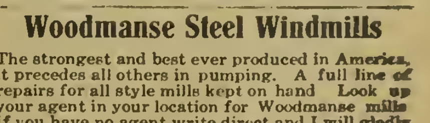

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TREES.

FOR SALE—ABOUT 50,000 BLUE GUMS. fine plants ready any time after January 15th. Price low if ordered quick. H. L. BAUER & SONS, 737 S. Spring St., Los Angeles. Cal.

20,000 SEEDLING AND GRAFTED WALnuts. fruit. ornamental trees, palms, roses. A thrifty, well grown stock. A. R. MARSHALL, nurseryman. sales yard cor. Third and Main streets. Santa Ana, Cal.

BUDDED ORANGE TREES, VALENCIA and navel 2-year-old buds, clean and thrifty stock. Address F. E. CHAPMAN, R. F. D., box 34, Pasadena. Cal.

EUCALYPTUS TREES—ORDER NOW AND have your choice of any variety at any price, of any size. A. L. HURTT, San Bernardino. Cal.

EGGS FOR HATCHING.

EGGS FROM MY PRIZE WINNING BARred Rocks; won all firsts, all seconds but one, and all specials on Barred Rocks at L. A. C. P. A. Show, 1907. Eggs from best pens, $3 per 15; $12.50 per 100. Stock for sale. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

NINETEEN HUNDRED AND EIGHT Poultry business will be more profitable than ever. Order your eggs for hatching now. We have thoroughbred White Leghorns and Wyandottes. Also a few beautiful White Holland Turkeys for sale. SAN GABRIEL POULTRY FARM, San Gabriel, Cal.

WHITE LEGHORNS (HOWARD STRAIN), W. Wyandottes (Hubbard strain) Eggs; Leghorns, $5 per $100; Wyandottes, $7. Baby chicks FROM BRED TO LAY STOCK SHIPPED anywhere. Ranch 2 blocks from car. F. T. McLAUGHLIN, Gardena.

ROSE COMB R. I. RED EGGS PER SITting of 15, $1.00 and $2.50. Address, D. WRIGHT, Willow St., San Jose, R. F. D. Box 162.

BERRY PLANTS.

FOR SALE—200.000 PLANTS INCLUDING Phenomenal, Mammoth, Himalya, Giant Dewberries and raspberries all well rooted and strong plants. Send for catalogue to R. J. HUNTER, Oak View Berry Farm, Gridley, Cal.

FOR SALE — KLONDIKE, EXCELSIOR, Arizona and other varieties of strawberry plants, $2.00 per thousand, f.o.b., Gardena. Would like to deliver plants by first of January. Address D. P. DUNCAN, Gardena, Cal.

FOR SALE—100,000 PRIDE OF MICHIGAN and 100,000 Brandywine strawberry plants. Famous Kellogg strain at $2.25 per 1000 if ordered soon. R. J. HUNTER, Oak View Berry Farm, Gridley, Cal.

FOR SALE—MAMMOTH BLACKBERRY, 100, $3; 1000, $25; Himalaya Giant blackberry, 100, $4.50; 1000, $35. Express prepaid to California points, ADELBERT COOLEY. Laton, Cal.

W. J. ROOKS OF AZUSA, CALIFORNIA, has for sale a special fine line of Brandywine strawberry plants, $2.50 per 1000.

WANTED—ONE-YEAR OLD LOGANBERry plants. Address P. O. BOX 2697, Fresno, California.

STRAWBERRIES, 91 SELECTED VARIEties, list and prices on application. TRIBBLE BROS., Elk Grove, Cal.

FOR SALE—A LIMITED SUPPLY OF LOgan and Mammoth Blackberry plants at $2.50 and $4.00 per hundred, respectively. Address, J. B. CURTIS, Greenfield, Cal.

FOR SALE—THRIFTY, YOUNG WALNUT trees. Grown from selected softshell seed. $25 per hundred on car at depot. A. M. HOEL, Goleta, Cal.

POULTRY

WHITE WYANDOTTES—"CREAM OF THE Coast" strain—the 200-per-year kind. Barred Plymouth Rocks, my "Blue Diamond" strain, are great winter layers of big, brown eggs. No incubator lots furnished. Eggs per 13, after Jan. 1, carefully packed, $1.50. Address WILLIAM C. PARKER, 111 Pacific avenue, Santa Cruz, Cal.

WHITE PLYMOUTH ROCKS EXCLUSIVEly. The largest flock of prize winning birds in the West. At the late Los Angeles show, 1907, we won twenty-three out of a possible twenty-five prizes. We offer extra bargains in our this year's breeders. Will sell to suit purchaser. Eggs $2.50 per 15; $10 per 100. A. J. LITTLE, Monrovia, Cal.

BLUE ANDALUSIANS. WON ALL PRIZES at Los Angeles County Show, 1907. A few good trios and pens; also good breeding cockerels; eggs for hatching, $2 and $2.50; no better stock anywhere. MRS. T. R. GRIFFITH, 3111 Walton ave., Los Angeles, Cal.

S. C. WHITE LEGHORNS—I HAVE 35 hens and 2 cocks 19 months old selected breeders hatched from Howard's best pens. I will sell the lot for $70 or 17 hens and 1 cock for $35. CLYDE J. MOSS, Corona, Cal.

PARTRIDGE WYANDOTTES—C. ANdrews, 215 N. Sutherland Ave., Hollywood, Cal. 11 prizes and silver cup at Poultry Breeders' show, 1907.

MACHINERY.

FOR SALE—25-H. P. Fairbanks-Morse distillate engine in fine condition; no further use for same. A snap. 943 N. MAIN ST., Los Angeles, Cal.

FOR SALE—IN A1-CONDITION; 60-H. P. Fairbanks-Morse gasoline engine, as good as new at a bargain. WAITE, BAILIE CO., Los Angeles, Cal.

GRAPE CUTTINGS WANTED.

WANTED—CUTTINGS OF THE FOLLOWing for grafting purposes: Rupestris St. George, Riparia x Rupestris 3306, Riparia x Rupestris 3309, Riparia x Rupestris 106-8 and Mourvedre x Rupestris 1202. Address FANCHER CREEK NURSERIES, Fresno, California.

GRAPE CUTTINGS.

FOR SALE—20,000 CORNICHON GRAPE cuttings; strong wood 18 inches long, at $5.00 per 1000; 500 fine plants ,German Box, out of 5-inch pots, $20.00 per 100; 1000 Phoenix Canariensis 4 feet and over, established, $1.00 each; 1000 Washingtonia Robusta and Philippera 3 to 4 feet (balled or established.) H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

MISCELLANEOUS.

DELMONICO'S CHEF SAYS: "THE ANchor egg separator works perfectly; no well regulated hotel or household can afford to be without it." Send ten cents, or ten names of persons keeping poultry, and we will send one postpaid. WEST COAST MILL, 818 San Fernando St., Los Angeles, Cal.

FOR SALE CHEAP—ONE JUBILEE INcubator and one Jubilee brooder. Used one season. HEMPSTEAD & CURTIC, Charter Oak, Cal.

ARTICHOKES.

FOR SALE—JERUSALUM ARTICHOKES—The great winter hog feed. Address FANCHER CREEK NURSERIES, Fresno, California.

FARM LANDS FOR SALE.

FOR SALE—1 to 10-acre tracts on car line between Riverside and new cement works. Good for chicken ranches, alfalfa or gardening. Will sell on easy terms. Plenty of water on each tract. N. R. BELL, Riverside, Cal.

PHEASANTS.

"PHEASANT FARMING." ILLUSTRATED. 25c. Tells how to raise pheasants. Birds and eggs for sale. SIMPSON'S PHEASANT FARM Box C247 Corvallis. Oregon.

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The Produce Markets

Los Angeles Markets

LOS ANGELES, Jan. 8, 1908.

Butter.

Butter is yet quoted at the same price, but there is a desperate effort on the part of some dealers to hammer down quotations. The supply in hand is so small that there is little apparent reason for a downward trend. Immense quantities of storage is being drawn out, claimed for the purpose of forcing down fresh creamery price.

Creamery extra per roll	75@77½
Firsts	57½@60
Seconds	60
Dairy	45
Cooking	45@47
Eastern	55@60
"Butterine"	15@20

Cheese.

Cal Young America per lb	20½
Hand	20½
California Anchor	19
Northern fresh	17¼@17½
Eastern singles	19
Imported Swiss	32
Tulare flats	18½
Domestic Swiss	21@22
Oregon	18

Eggs and Poultry.

Eggs are still shading materially in price and receipts are continually increasing. If warmer weather comes a further increase in receipts will still lower the price.

Eggs local candled	27@28
Eggs case count	24
Fresh Eastern	20
Hens per lb	14
Young roosters per lb	15
Fryers	18
Broilers per lb	21
Old roosters	8
Turkeys	15
Geese	13
Ducks	16
Squabs	1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 lbs	6¼
Prime steers	4½
Heifers	4
Calves per lb	4½@5
Sheep ewes per head	4.75
Lambs per head	3.75@4.25
Wethers	5.50

Potatoes.

Highlands	1.15@1.35
Early Rose	2.60
Salinas	1.75@1.85
Sweet potatoes per sack	2.00@2.50
Oregons	1.35@1.50
Idahos	1.25

Onions.

Silver skins	2.50
Yellow Danvers	2.30@2.50
Australian Browns	2.25@2.40
Oregons	2.30@2.55
Colorado	2.30@2.35
Garlic	10

Vegetables.

Artichokes per doz	1.15
Beets per doz	25@35
Bell peppers per box	60
Beans limas per lb	6@8
Beans green	8
Brussels sprouts per lb	5@6
Cabbage sack	40
Celery per crate	1.50
Chili peppers green lb	2@2½
Cucumbers per box	50@1.00
Cauliflower	75
Carrots per doz	30@40
Eggplant per lb	5@6
Green onions doz bunches	10@30
Hubbard squash per lb	1@1½
Lettuce per crate	25@50
Pie Pumpkins	1½
Peas sugar per lb	2½@3
Parsley	30
Parsnips	35@40
Rhubarb per box	75
Radishes per doz	15@20
Salsify	30
Spinach per doz	10@25
Squash crate	50
Turnips doz bunches	40
Tomatoes per box	1.75@2.00

Citrus Fruits.

New oranges	1.85@2.00
Culls	75@1.00
Grapefruit seedless	2.50@3.00
Grapefruit seedlings	1.75@2.00
Lemons fancy	2.25
Lemons choice	1.50@1.75

Fresh Fruits.

Bellefluers	1.90@2.00
Baldwins	1.25@1.50
Pippins 4-tier	1.50
Gravenstein	1.50
Alexandria	1.00@1.50
[illegible]	50@1.00
W W Pearmains	1.75
Colorado Jonathans	3.50
Casaba per crate	2.00@2.50
Figs black per lb	8@12
Figs white	11@12
Guavas	6@8
Pears	1.25
Winter Nellis per lb	6
Pomegranates per lb	7
Persimmons	5@10
Quinces	1.25
Raspberries	15@18
Strawberries	6@8

Dried Fruits.

Apricots	17@21
Evap apples fy per lb	10½
Figs loose	4@6
Peaches	12@13
Pears	12½@13
Nectarines	13@14
Prunes	3½@5½
Plums	11½@13

Beans, Dried

Limas per ctl	5.25@5.50
Pink No 1	3.60@3.70
Lady Washington	3.75@3.95
Small White	3.75@3.85
Black eyes	4.50@4.75
Garvanzas	5.25@5.75
Lentils	12@12½

Nuts.

Almonds per lb	18@20
Peanuts Virgina	8½@9
Peanuts California	6@7½
Walnuts No. 1 S S	15@16

Hay.

Barley No 1	14.00@18.00
Barley No 2	13.00@14.00
Alfalfa northern per ton	15.00@17.00
Alfalfa new local	15.00@17.00
Plain Oat No 1 new	16.00@18.00
Wheat No 1	18.00
Wheat No 2	14.00

Grain.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl	1.85
Wheat in 100-lb. sacks	1.90
Barley	1.50
Corn Eastern sacked	1.80
White oats	1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn	1.85
Shorts	60
Bran	45
Oil cake meal	2.50
Feed meal	1.90
Rolled barley	1.75

QUERIES AND REPLIES.

Continued from Page 38.

This is a form of indigestion produced by improper feeding. The first thing to do is to administer two fluid ounces of castor oil, to which may be added a short teaspoonful of laudanum. After this has operated give:

Bismuth, two drachms;
Magnesia, two drachms;
Tincture of Kimo, one drachm. Mix well.

This solution may be given in milk. A little scalded milk is beneficial, and a raw egg with the shell is also good. Crowd into the throat and crush so that the whole may be swallowed.

Blindness.

I have a three-months-old almost pure blood Jersey calf, that I have raised on skim milk with a mixture of oilmeal, cornmeal and shorts well cooked, added to milk, then for some time she has been eating alfalfa hay and green corn fodder, her coat has looked rough for some time and otherwise she has seemed well.

One day last week she got loose. When I found her she was suckling the cow and seemed to be overfull of some kind of feed. In leading her along to tie her up she seemed to stumble along, not knowing where to put her feet. When I fed her the milk I found she was blind. That was four days ago. She still continues blind, eats well. What causes the blindness? I thought perhaps eating deadly nightshade might dilate the pupils. In that case she will recover, but she seems no better. A. L. H.

I do not know. It is certainly a curious case. I hope you will report on its sequel later. M. E. S.

The director of the reclamation service in a recent report discusses irrigation projects in Idaho giving special notice to the Payette-Boise project, which is undertaking the reclamation of 372,000 acres of arid land.

San Francisco Markets

SAN FRANCISCO, Jan. 7, 1908.

Butter.

Butter has declined materially during the past week and the tone of the market is rather weak to the extent that it is now hard to command even the quotations.

The current prices on dairy products in San Francisco are always from 2 to 3 cents higher than the rates given in the daily official list of the Wholesale Dairy Produce Exchange. The retail dealers in this city invariably pay an additional 2 cents per pound on butter and per dozen of eggs, and occasionally it is 3 cents. On cheese the increase is 1 cent per pound. By making these additions to the Dairy Exchange prices the producer in the country can always determine the actual prices ruling in this city. The quotations as prepared by the San Francisco Wholesale Dairy Exchange yesterday were as follows:

California extras per lb.	30@31
California firsts	26½
California seconds	25
Eastern extras	24½
Storage Cal ex	24½

Cheese.

California young American fy	16
California flats fy	14½
Eastern fy	18½
Oregon fancy	15½

Eggs and Poultry.

Eggs have been dropping from 1 to 3 cents per day during the past week and the receipts are now very heavy—heaviest they have been for weeks.

Fresh ranch eggs	32
Eggs firsts per doz	30
Eggs second per doz	25
Storage Cal extra	28
Eastern selected	21
Eastern firsts	19
Hens per doz	4.50@6.00
Hens extra	6.00@7.00
Young roosters	6.00@7.00
Old roosters	4.00@4.50
Fryers per doz	5.00@6.00
Broilers per doz	4.00@5.00
Geese per pair	2.00@2.50
Ducks young	4.00@5.50
Turkeys per lb	18
Pigeons	1.00@1.25

Live Stock.

Steers No 1	8½@9
Do second quality	7½@8
No. 1 cows and heifers	6½@7
Hogs 200 to 300 lbs	5@5½
Hogs 20 0to 300 lbs	5@5½
Calves per lb	4½@6
Lambs	5@5½
Wethers No 1	5@5½
Ewes No 1	4½@5

Potatoes

River whites	50@75
Oregon Burbanks	90@1.25
Early Rose	1,25@1.35
River Reds	1.35@1.40
Salinas Burbanks	1.20@1.35
Sweets per crate	2.00@2.25

Vegetables.

Celery per crate	75@1.00
Corn per sack	1.50@1.75
Cucumbers per doz	1.00@1.25
Chili peppers per lb	5
Bell peppers per lb	5@6
Egg plant per lb	8@10
Green peas per lb	3@4
Squash per box	50@1.00
Marrowfat squash per sack	60@75
Mushrooms	15@40
Hubbard squash per sack	60@80
Rhubarb per box	1.00@1.25
Tomatoes local	1.00@2.00
String beans	12½@15
Wax beans	6
Garlic	4@6

Onions.

Onions br Australian per ctl.	75@2.00
Yellow Danvers	2.25

Citrus Fruits.

New navels	1.25@2.25
Grapefruit seedless	2.50@3.25
Lemons	1.50@3.00
Limes	2.00@4.00

Fresh Fruits.

Newtons	1.50@1.75
Spitzenberg	2.25@2.50
Apples small stock	40@75
Huckleberries	12½
Pears winter Nellis	2.00@2.50
Pears cooking	1.00@1.50
Persimmons	75@1.25
Pomegranates per box	1.00@2.50
Quinces per box	1.00@1.25

Dried Fruits.

Apples (evap.)	10@10½
Apricots per lb new	18@21
Figs white	3½@5
Nectarines	12½@15
Plums pitted	12@15
Prunes 4 sizes	4@5½
Peaches	10@13
Pears	7@13
Prunes 4 size bag basis	4¾@5

Beans, Dried.

Limas	5.15@5.20
Pink	3.20@3.25
Small white	3.45@3.50
Large white	3.00@3.10
Lady Washington	3.40@3.50
Black eyes	4.00@4.25
Red kidneys	3.40@3.50
Bayo	3.15@3.25

Hops.

Hops new future delivery per lb.	4@8
Hops old fancy	2@3

Nuts.

Almonds new	16½@17½
Peanuts California	6½@7½
Walnuts	14@17

Honey

Clear white comb	16@17
Amber	12@15
Extracted	7½
Beeswax No 1 per lb	25@27

Hay.

Somers & Co. say:

Arrivals of hay have been very heavy for the holiday season, the total for the week ending today amounting to 4040 tons in comparison with but 2550 tons for the week preceeding. As a general rule, we experience a very quiet market Christmas time and with present conditions this fact was very noticable this year. Therefore, although hay showed some recovery about ten days ago, yet during the past four or five days there has been a decidedly weaker feeling aagin. It is generally anticipated that with the turn of the year a better trade and corresponding prices will be noted.

A continuance of light rains has naturally done its part towards insuring a prosperous season for 1908, although it is far too early as yet to anticipate concerning the new crop. The effect of the rain at present rather helps the weakness in hay. Our total rainfall thus far has been far below the average, but it is the later showers that really regulate the amount of our crops.

Alfalfa local	9.00@13.00
Tame oat choice	11.00@16.00
Wild oat	10.00@13.00
Wheat and oat	11.00@15.50
Wheat choice	16.50@18.50

Grain.

Wheat No 1	1.65@1.70
Barley No 1	1.57½@1.60
Corn small yellow	1.50@1.55
Corn large yellow	1.50@1.55
Oats white	1.60@1.70
Oats red	1.75@1.90

Feed Stuff.

Bran per ton	28.00@30.00
Straw per bale	75@85
Feed cornmeal per ton	36.00@37.50
Cracked corn per ton	37.00@38.00
Rolled barley per ton	35.00@36.00
Oil cake meal per ton	38.50@40.00
Cocoanut cake, per ton	**25.00@26.00**
Middlings	30.00@32.50

Citrus Market

NEW YORK, Jan. 6.—The market is lower generally. Lemons are in good demand on strictly fancy stock. Lemons today are chiefly poor stock. The weather is clear and cold.

NAVELS—	Avg.
Independent fy High Dist	2.65
Independent ch High Dist	2.40
Independent st High Dist	2.15
Independent o r High Dist	2.45
Rialto Girl fy Growers' Ft Co	2.25
Rialto Girl ch Growers' Ft Co	2.15
Producer fy Redlands O Pro. Co.	2.60
Aloha ch Redlands O Pro. Co	2.15
Rook xc Ely-Gilmore Co	2.40
Independent o r High Dist	2.25
Independent st Highland	2.15
Sunnyslope fy Randolph Ft Co	1.75
Pinkham McKevett	2.10
Gobbler o r Stewart Ft Co	2.35
Moore Estate xfy Stewart Ft Co.	2.25
Moore Estate xc Stewart Ft Co.	2.10
Bear and Eagle fy Lindsay C As	1.90
Gold Buckle Thom's Im RH Ft Ex	2.85
Lochinvar Thom's Im RH Ft Ex.	2.55
Blue Seal fy Azusa Foothill C As.	2.35
Red Shield xfy ACG Ft Ex	2.25
Beauties xfy Redlands Eclipse As	2.00
Mariposa fy Cal Cit U	2.30
Sunflower xfy Cal Cit U	2.55
LEMONS—	
Whittier xc ST Ft Ex	2.30
Pico st ST Ft Ex	2.15
Lobster xc Cal Cit U	1.85
Visalia fy TC Ft Ex	2.50
Lemoncove ch TC Ft Ex	2.35

ARIZONA NAVELS—Desert boxes, $3.60; half boxes, $1.90.

NEW YORK, Jan. 7.—Four cars of navels and three cars of lemons were sold today. The market is unchanged on navels, while lemons are steady. The weather is cold and cloudy.

NAVELS—	
Cobbler fy o r Stewart Ft Co	2.20
Independent o r Growers' Ft Co.	2.50
Independent fy Growers' Ft Co	2.50
Independent ch Grewors Ft Co	2.30
LEMONS—	
Whittier xc ST Ft Ex	2.25
Blanchard sel fy N W Blanchard Santa Paula	2.30
Independent xfy Growers' Ft Co.	2.50
Independent ch Growers' Ft Co	2.35

ADVANTAGES OF SHADE TREES.

Continued from Page 52.

sideration is by no means the largest return.

That these facts are being appreciated more fully than heretofore is indicated by the greater activity in street tree planting and the frequent inquiries from city authorities as well as individuals as to what and how to plant.

* * *

Some Definite Suggestions.

The Cultivator has asked me to give some conclusions from my study and observations of and experience with street trees in recent years, as to desirable varieties, etc. Here at the South, with our semi-tropical conditions, I not only advise, but earnestly urge planting evergreen trees, unless for some special local reason. Our evergreen trees are not only in keeping with our climate and other conditions, but they serve us the year through. During their long, bleak winters in the East, the naked deciduous trees do not look so much out of place. Their bare branches are rather in keeping with the winter surroundings, and they render some compensation for their long nakedness, by preceding it for a season, in taking on their most brilliant dress of the year.

With us the deciduous foliage in early autumn slowly turns to a dull brown, and the trees at once begin to look utterly out of place, in contrast to the bright cheerfulness of the blooming flowers, the green lawns and bright foliage of our evergreen trees. It takes but a few of these brown, and later on naked trees to spoil the brightness of a whole street.

There is another consideration. While I do not favor specially catering to the notions of our numerous winter visitors to our own inconvenience, I think, as hosts, we should take some pride in what adds most to their pleasure while sojourneying with us. There is no feature of the country that delights the tourist more than the winter drives over good roads through our beautiful tree-lined avenues.

So, I say, plant evergreens, as a rule, at the South at least.

* * *

The Beautiful Pepper.

For evergreen shade trees the pepper stands as conspicuously first as a street tree for California, as does the maple in the Middle West and the elm in New England.

Properly grown and cared for—and this means all the difference between a straight, smooth-stemmed, vigorous, well-balanced tree, and the crooked, gnarled stemmed, ill-shaped topped tree so common on our streets—I think the pepper the most graceful, beautiful shade tree grown in America for street purposes. The black acacia—Melanocrylou—is proving one of our most desirable street trees. Its dense, dark green foliage is of a pleasing shade. If allowed to take its natural shape, it has a comparatively narrow spread of branches, and in its early stages of growth, assumes a handsome pyramidical form, but if the top is cut back after a few years' growth the body widens out, often making a spread of 20 to 30 feet, becoming a beautiful, shapely, umbragious tree.

Long Lived.

Both the pepper and black acacia are long lived trees. While they respond quickly to good care, they will stand much hardship. With proper cultivation they will do fairly well with little water after once being established.

The Palm.

Where shade is not desired I consider the palm one of our most valuable ornamental street trees. There is something about the palm that especially appeals to cultured taste everywhere. There is no plant more universally found in public and private collections, in greenhouses and as house plants, in climates too cold for it to flourish in the open. While we must wait some years for most other trees to make much showing on the street, the palm is an attractive, beautiful plant during its early stages of growth. When grown there is no more stately tree giving especially striking effect in long avenue plantings. While it is said that the habitat of the palm is with "its feet in the water and face in the sun," and doubtless does best in a warm, moist climate; with a little special care while young, it does well in most parts of California.

For a Hundred Years To Come.

I have left myself no space to discuss other of our desirable street trees, and close urging most careful consideration in chosing varieties, which, if suitable, should beautify the street, giving joy to the public for a century.

COBURN'S ALFALFA DONT'S.

In his book entitled, "The Book of Alfalfa," Secretary F. D. Coburn, of Kansas, gives the following list of don'ts:

Don't sow any nurse crop.

Don't sow on freshly plowed land, no matter how carefully prepared.

Don't let weeds or grass grow over six inches high without clipping.

Don't clip or mow when wet with rain or dew.

Don't let alfalfa stand; if turning yellow, cut it.

Don't sow old seed.

Don't sow less than 25 pounds per acre, one-half each way.

Don't sow on land that will not raise 250 bushels of potatoes per acre.

Don't sow 25 acres at first; sow five.

Don't pasture it.

Don't put any of the rotten manure anywhere but on your alfalfa plot.

Don't depend upon "culture cakes" or soil from some distant field.

Don't let it go if a thin stand, but disk in more seed; don't be afraid you will kill it.

Don't replow the land, disk it.

Don't wait for it to stool; it never does.

Don't try to cut for hay until the alfalfa takes the field.

Don't sow on any land not well underdrained.

Don't leave your land rough; use a roller or a plank float to level and smooth it.

Don't give up.

The 16th annual meeting of the Washington State Dairy Association was recently held at Stanwood, Washington, when the following officers were elected: E. J. Ross of Bethel, King county, president; I. S. Thomle of Stanwood, vice-president; Ira P. Whitney of Pullman, secretary-treasurer; B. F. Reed of Ellensburg, W. J. Langdon of Sumner, and G. R. Silbey of Chehalis, directors.

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The New Pomona Deep Well Pump Head

Pomona Mfg. Co., Pomona

Riverside, Cal., October 8, 1907.

POMONA MANUFACTURING CO., Pomona, Cal.

Gentlemen:—In reply to yours requesting privilege of photographing our pumping plant which you installed for us last spring will say: You are perfectly welcome to take as many photos as you wish, and as our season for pumping is practically over, it may be of interest to you to know something of what we have been doing with it. We have raised forty inches of water about two hundred and fifty feet, delivering it through a six-inch pipe line to our reservoir about one and one-half miles distant from the well. The pump is driven by a forty-horse power electric motor, and our tests have shown the actual horse power used to be twenty-seven horse power. The pump has worked perfectly all through the season and is in perfect condition today. It has come up to all that you represented it and met our every expectation. Should you wish to refer to our plant at any time, you will always find it open for your inspecition. Yours truly.

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Write for Bulletin No. 11.

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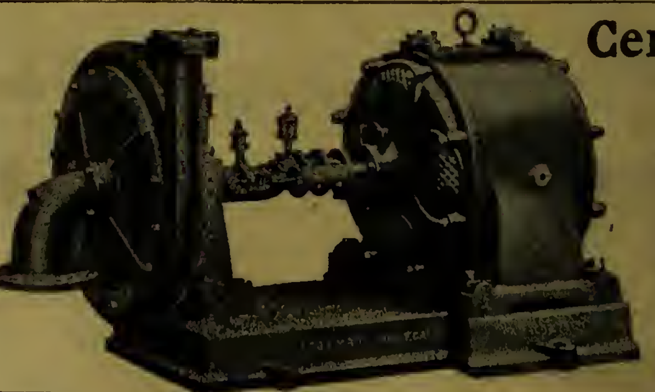

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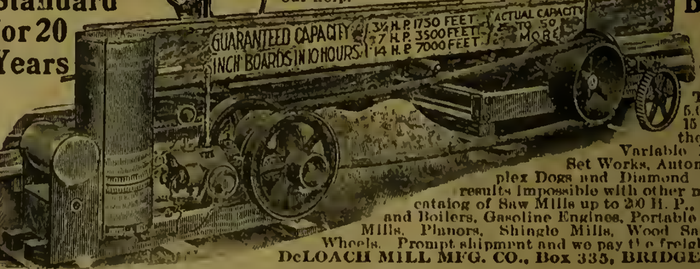
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ACTUAL CAPACITY 25 TO 50 % MORE

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PALACE HARDWARE COMPANY.
456 Golden Gate Avenue, San Francisco.
Coast Agents.

Send for Circular.

California Cultivator

Los Angeles January 16, 1908 San Francisco

A Beautiful Road and Avenue Tree

Courtesy Out West

Eucalypts are native to the coast region of Australia and Tasmania, where at least 150 distinct species are recognized. More than 100 species have been introduced into the United States. They are, however, adapted to a subtropical climate, and only a limited portion of this country is favorable for their growth. The possibility of growing eucalypts in any region is determined by the amount of cold that the young trees have to endure. Few of the species can survive a temperature below 20 deg. F., and none of them a temperature of less than 12 deg.

In general, eucalypts may be successfully planted in the sections of the United States suitable for the culture of citrus fruits. They are grown in nearly all the agricultural sections of California, along the coast of Southern Oregon, and to a limited extent in Arizona, New Mexico, and Western Texas. Several species have also been planted in Florida and along the Gulf coast. Here, however, occasional frosts have killed or severely damaged the trees, and for this reason planting has been discouraged.

Eucalypts have been planted most extensively in California, and here the value of different species may best be determined. The rate and habit of growth of the blue, sugar and gray gums and a few other species make them superior to other eucalypts and recommend them especially for commercial plantations.

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Two-Weeks-Old Chicks fed on
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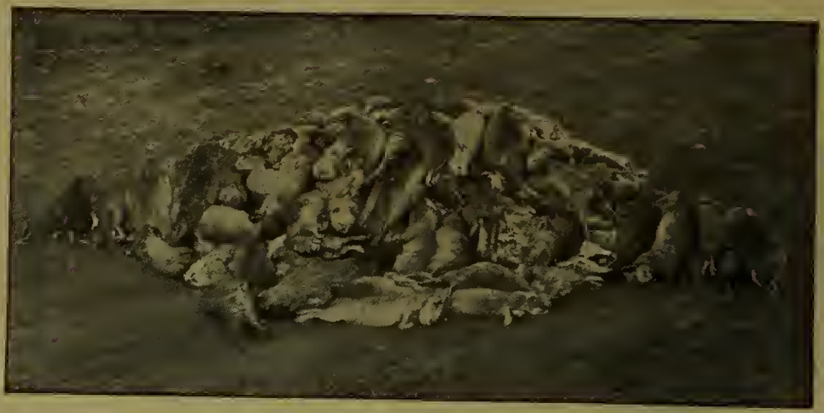
The Gophers go for it and it will go for them good and plenty every time



This is a photo of 201 killed in one day on a ten-acre field before they could get back to their holes, with one bottle of BILLE'S COPHER POISON.

Endorsed by Agricultural Colleges and Experiment Stations. Has had greatest success for years in the Middle West, and also here in California last season. It is most attractive to gophers, squirrels, etc, and sure death to them. One among many, Amos. L. Grigsby, Campo, Cal., writes: "I have given it a good test, have used all of the two bottles and have almost exterminated the gophers in my 22-acre tract of alfalfa. You know how thick they can get in alfalfa that is not irrigated. Enclosed find $2.50. Send me two more bottles." If your dealer hasn't it, send $2.50 for 2 bottles (not less than two) express prepaid by us. The ingredients can't be bought at a drug store for that price. Money refunded if not as represented—so printed on the bottle. Anyway send for circular with affidavit of above killing and a few of many testimonials.

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California Cultivator

Vol. XXX—No. 3 Los Angeles, California, Thursday, January 16, 1908 Subscription $1 a Year

Protest of Dried Fruit Producers

Growers of Apricots and Peaches from All Over the State in Arms Against the Unjust Action of the Department of Agriculture. They Maintain That the Industry is Ruined Unless Relief is Offered

THE fruit growers of this State are fully aroused to the gravity of the situation which is forced upon them by the ruling of the Department of Agriculture regarding the sulphuring of fruit. Dr. Wiley is reported to have said that dried fruit men will not be permitted to use any sulphur whatever in the curing of fruit, if he can prevent it. "You don't need it. You ought not to have any sulphur. We will show you pretty soon how to dry fruit without sulphur. We are with you. Be patient and don't kick and your industry will be bigger than ever," is a newspaper statement of his attitude.

Just Be Good and Don't Kick.

The appeal to "be patient and not kick," may give to Dr. Wiley pleasure to advise Californians, but fruit growers from one end of the State to the other who had thousands of dollars taken from heir pockets by the fearful blunder made by the epartment in springing this fight in the midst of ast season's drying campaign, are not in the rame of mind to accept his mild advice without utting up an exceedingly vigorous kick, and at he present time it appears the growers have no esire to present their kick to Dr. Wiley or the epartment of Agriculture, but to ignore the deartment entirely and present the matter to Conress where a mighty effort will be made to save he fruit drying industry, which the department, n its mistaken zeal, seems bound to destroy.

ig as Carnegie Works.

As one speaker at the recent meeting held in os Angeles to appoint delegates to the convenion held in San Francisco today said: "If we atempt to follow Dr. Wiley's steam curing sugestion it will take a steam plant as big as the arnegie steel works to properly handle the fruit n any one large apricot growing community." nother speaker, Mr. Prince of Lankershim, aid: "Taking into consideration past experinces of practical men, the cost of fuel, the great uantity to be treated and the extremely short easons in which a crop like apricots is ripened, e do not believe the steam proposition is at all racticable. Such plants could be used only a ew days in the year, and if capital could be inuced to construct such plants, the average rice of dried fruit would not justify its use. In uch a case our apricots could not be cured, and he exceedingly small proportions which the anneries could handle would be at a price such s they might choose to make. Our own comunity of Lankershim, for instance, produces about 2200 tons of apricots. This, at times, owing to low prices which canners will pay, we are compelled to dry the entire amount. This industry is yet in its infancy and will be of far larger proportion when young trees now planted are in bearing.

All in Twenty Days.

"I have known the picking season to last only 17 days, and all know from the nature of the apricot that it must be canned or dried immediately. If we allow 20 days for the picking we in our district, are obliged to handle 110 tons of fruit per day, and in case of extremely warm weather when the season is shortened to possibly one-half that time, we are simply unable, even under the old established way of drying our fruit, to handle to the best advantage the immense daily output.

"Now to imagine that Dr. Wiley or any other professor or politician can successfully invent, perfect and install in the short time before next season's crop, plants of capacity to handle the immense output of this State, which takes into consideration such a radical change in methods of handling, is too preposterous to consider for a moment. But if this were practicable or possible, the past experiences of practical men goes to prove that the cost of fuel with the interest which would accrue on such an expensive plant, would place the cost of the product beyond the purchasing power of the people who ordinarily eat dried fruit."

That the department should watch our fruit products and keep them free from poisonous compounds and of such a grade that they will command more extended sale, is conceded to be its duty, but along this line attention is called to the fact that our sulphured fruits shipped into the German markets and at first denied admittance were afterwards admitted because it was conclusively shown that they were perfectly healthful.

Possibly Our Own Fault.

Of course, it may be as Mr. Neff said at the Los Angelus meeting, that many fruits have been so improperly sulphured as to be the cause of this campaign against the industry. But granting this to be the case let the fight be made against the abuse, and not the use, of a good thing. On this point Mr. Sutherland, of Colton, read the following from a letter from a wholesale commission merchant of Chicago:

"Your representatives in Congress should be impressed with the necessity of establishing a ruling that will allow the proper use of sulphur. It has been proven that it is not only free from harmful effects, but absolutely healthy.

"The dried and canned fruit brokers meet in Cincinnati early in February, and we will try to see that concerted action is taken by that association, and we believe that you will appreciate that every one interested in the dried fruit industry should act together and quickly on this question."

From this it will be seen that California is not alone in the fight, but the growers must not for a moment allow the greater amount of the opposition of this ruling to fall into the hands of packers and shippers.

The State Board Busy.

In the call issued for the State Board meeting, the State Board says:

The California State Board of Trade regards with anxious concern the as yet unsettled and unsatisfactory status of the dried fruit sulphuring question. As at present advised from the several sources to which we have to look for information, the situation is pregnant with danger to this important industry in which a large number of fruit growers in various sections of the State have embarked their capital.

Hesitancy and delay will surely bring disaster widespread and irredeemable. Full discussion of the various phases of the question should be had at once by those primarily interested, and prompt action agreed upon and taken before it is too late to bear results for the protection of the growers during the coming season.

What the action of the convention will be today will probably be known to many readers of the Cultivator by the time this paper reaches them, but it is assumed that a strong committee will be elected to go to Washington and appeal to Congress for relief from this unjust action. It is to be hoped that success may be achieved by the committee ,and that the great injury to this industry, which was given by the department during last season, may be, in part, overcome.

Be Just.

Let us not be embittered against the department for this action. The Department is an aid to agriculture of our State, and the lack of judgment on the part of one official must not induce us to condemn unjustly. It is not cheering to fight those who should encourage our industry, but it is necessary; therefore, let us fight hard but be square.

Hundreds of Extensive Fruit Drying Fields Like This over This State Could Not Possibly Revise Methods of Drying Before the Next Crop is Ready for the Cutters, Even if Improved Methods Were Now Known to Exist.

Citrus Trees
TRUE TO NAME
And embracing all the standard sorts, are to be had of our establishment. Bear in mind that we are the largest growers of Citrus Trees in the world, and that our stock has been awarded the gold medal at every world's fair in the world where we have shown. Our fine booklet, containing 50,000 words and over 100 illustrations, gives you all the points on Citrus Culture. Price 25 cents. Can we send you a copy?
San Dimas Citrus Nurseries
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CANTON Scotch Clipper Plows
CAN ALWAYS BE FOUND IN THE CELEBRATED
Canton Clipper Line
Wood and Steel Beam Walking Plows
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ALL SIZES AND PATTERNS FOR ALL KINDS OF WORK
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Both sweet and sour, the very best. Orders booked now for delivery Spring of 1908.
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F. H. DISBROW, Proprietor Both Phones

Sour and Sweet Orange Seed Bed Plants
The Finest Lot in California
My sour orange plants are grown from seed off the wild orange trees of Florida. Trees grown on this stock are very desirable for planting in heavy soils or lands that are subject to excessive moisture or drouth. Its most valuable feature is its resistance to gum disease.
My sweet orange plants are grown from seed off very large, old Tahiti seedling trees, thus making the very best foundation to grow an orange orchard on. Don't fail to see my stock before you buy, or address
William Wood, Box 118, Whittier, Cal.

Citrus Trees
For Season 1908
Valencia, Eureka Lemons, Thompson and Washington Navels, Grape Fruit
C. L. McFarland & Co.
Riverside, Cal.

TENTS
Fumigating and Lemon Curing Tents our Specialties
Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants
300 slightly used tents, all sizes, for sale cheap.
Mellus Bros. & Co. Phones—Home, F 4871; S. S., Main 3500
250 East Fifth St., Los Angeles, Cal.

With the Citrus Growers

RED SPIDER.

THOUGH it may be anticipating somewhat to discuss this pest at the present time, yet it is certainly opportune to sound a warning against it while evidences of its work the past season are still apparent, especially on lemons.

Since early in October lemons coming to the packing-houses from certain groves have shown a decided tendency to color before coming to size, and this has followed many months on the trees and very slow development. While this has in some cases been due to certain lack of nourishment and care yet there are many more in which these have been bountifully supplied and owners have been at a loss to account for the failure of their fruit to develop properly. Ravages of red spider are very evident in many of these cases and there is also a premature shedding of leaves and lack of color which are due to the earlier attacks of this pest.

Courtesy Salt Lake Route
One of the Original Navel Trees Replanted by President Roosevelt

The enormous damage which these mites are capable of inflicting by reason of their rapid multiplication and perpetual drawing from the plant tissues of elaborated materials which should supply the fruit and foliage of the trees can only be estimated, but it is very evident to those who watch their groves during and subsequent to these attacks, who know what the trees have received and how far results fall short of normal. Besides the immediate and evident effects on fruit and foliage there is also much damage due to these little pests in the way of preventing the setting of oranges and lemons and they certainly add greatly to the volume of small fruit which drops after apparently having set by taking away nourishment which properly belongs to these. This upsetting of the normal development of the young oranges also increases the amount of so-called "off bloom."

Too often the orchardist regards them as a periodical pest, more or less natural and inevitable; a thing which will come and go again in the course of time, quietly and mysteriously. What he does overlook is the fact that they are every day destroying the effects of many pounds of fertilizer, many inches of water and many hours of cultivation and care.

Some have learned to fear the recommended application of sulphur because in a moment of desperation—or liberality—at some time in their careers they have applied an overdose of this useful remedy and burned much fruit and foliage. One-half to three-fourths of a pound per tree, preferably of flowers or sulphur, is sufficient, as it does not need to be thrown to the very tops of high trees, and this should be put on in a very fine mist. A hand blower or knapsack dust sprayer, such as is used for sulphuring vines, is very useful for this work, as it gives a finer and better distribution of material that can be given by hand and will save the eyes of the operator considerably. Of course there must be enough moisture on the trees to stick the sulphur and this may necessitate getting up very early in the morning to get the use of the night's due. It may even necessitate throwing a slight sprinkling of water over the trees with a small spray pump, but it will be found to pay big returns in either case. The sulphur need not touch each leaf, as it is the fumes and not contact that kills the mite. When the weather is warm enough to create the fumes they will rise up through the foliage and destroy the pest. If much rain occurs it will be necessary to repeat the dose. Our experts should develop some remedy which will be effective in cool weather. But do not wait for this. Put on your sulphur at the first symptoms of red spider, one day of warm weather will accomplish wonders.—B. J. Jones.

Shipments of Japanese matting grass are now being made from the plant introduction gardens at Chico to Arizona and Texas. This plant was introduced from Japan some time ago and has increased very satisfactorily.

Cloverdale Citrus Fair people are planning for their coming annual fair. The directors elected at the recent meeting are: S. Pinchowder, W. T. Brush, C. E. Humbert, J. B. Cooley and J. J. Barnes. William T. Brush was elected president, C. E. Humbert, vice-president; George B. Baer, secretary.

MEALY BUG.

The Mealy bug seems to be causing ore of concern than in the past, and uite often an inquiry comes to the ultivator as to how to overcome e pest. We have written several garding this pest, but as yet have ut little information as to a remedy. is generally conceded that it is a fficult problem. Mr. Ehrhorn, eputy State Horticultural Commisoner, writes:

Your letter to hand and regardg the Mealy bug, will say that our partment has been looking into is matter and we have taken steps get a parasite from the tropics, hich is doing good work there. Owg to the habits of the Mealy bug, it very difficult to use sprays against the egg masses being always procted by a cottony secretion, which es not let the wash reach them. I lieve that fumigation could be used th good results, but here again the gs would be difficult to kill. If migation could be repeated after e eggs hatch the pest would practally be wiped out.

Mr. Chapman, Mr. Palmer and ners have written of limited experice, but have no definite suggesns as to effective remedies.

The treatment given in Hume's trus Fruits is only spraying which given below, but we think Mr. rhorn's suggestions better. Hume ys:

e Mealy Bug—(Dactylopius citri isso.)

The adult female is from about 4 to 0.16 of an inch (3.5mm to 4 n) in length, 0.08 of an inch in dth, and very flat. The color is ll brownish yellow, the legs and tennae agreeing with the body in or. There are seventeen appenges on each side, and most parts the body are more or less powred with particles lighter than the ound color. The egg is about .01 an inch in length, of long, ellipdal form, and light yellow color. The eggs are laid in a large cottony ss at the posterior extremity of abdomen, and require considere time to hatch. After hatching larvae exhibit a marked tendency settle along the midribs and veins the under side of the leaves or on the younger twigs, especialy in forks. Ants are very industrious nts in scattering them. The ney dew excreted by the Mealy gs forms the attraction for the s which care for them in a way t has been compared to the attion man gives to his domestic mals. Free use of carbon bi-sulde or scalding water in the nests the ants often furnishes the best ans of controlling the Mealy bug. t feeds upon house plants, citrus es, coffee, tobacco, croton, Paseo-, Solanum jasmoides and proby a number of others.

reatment: Use a powerful force ap and penetrating insecticide, h as kerosene emulsion, upon mae insects. Thoroughness and frency of application will govern the ree of success achieved in fighting insect. Repeated applications of ash, whale oil soap, one pound in or three gallons of water made le the insects are young will give st successful results. Limbs that badly infested should have the ecticide painted upon them with a sh or they may sometimes be ned out altogether.

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eaumont is to take up the produc of Ginseng.

A MODEL PACKING HOUSE.

A Los Angeles daily gives the following:

C. E. Rumsey, owner of the Alta Cresta groves, is having constructed at the Pachappa station, known as the center of the orange growing district of Riverside, a model packing house, which, when completed, will be the finest and most up-to-date establishment of its kind in the country, and one of the show places in Southern California. Not only will this packing house have installed in it the latest and most modern appliances for the handling and packing of the orange, but the grounds adjacent to the building will be beautified and every facility will be given the visitor to watch the operations of the industry. When the building is completed it will always be open to the public.

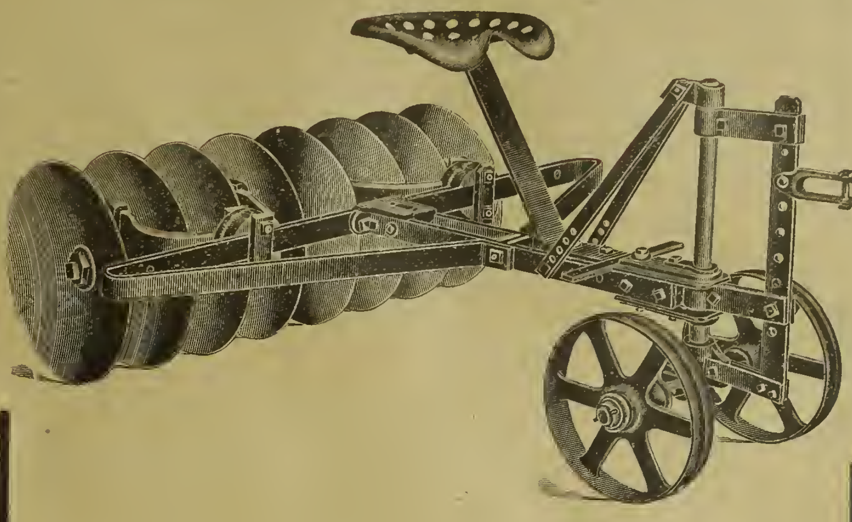
Recently a committee of citizens representing the Riverside Chamber of Commerce visited Mr. Rumsey's place, and after a conference with the owner it was practically decided that the city would assist in making the grounds more beautiful and advertise the place so that Easterners may have an opportunity of watching the interesting operations of fruit packing.

This packing house will be the pioneer in all that pertains in the handling of oranges in a scientific and painstaking manner. The fruit in the vicissitudes that attend it from the orchard to the packed box and to the car that carries it to the markets in the East, will be subject to a manner of handling entirely new. In view of the important results secured through the investigations of the United States Agricultural Department by G. Harold Powell in the matter of decay due to the faulty handling from the grove to the car, unusual precautions have been taken by Mr. Rumsey.

The system that Mr. Rumsey will install in the method of handling his fruit is interesting. He will require that every picker cuts the stem twice and wears a glove on his left hand. Each picker fills his own box and then places his card with number on it, so if there is any damage to the fruit it will be easily and quickly traced. Before the fruit is taken to the packing house it will be allowed to remain outdoors for the night in order to benefit by the cooling temperature. The roads to the packing house have been graded. This prevents the fruit from receiving any unnecessary jarring. The fruit is hauled in specially built wagons.

At the packing house an automatic dump takes the filled boxes and gently turns them over sideways, and the fruit rolls onto a canvas-covered hopper stuffed with horsehair. The fruit is then carefully inspected and graded. The packer, like the picker, is required to wear gloves in handling the fruit. In this manner the fruit is given the best handling. It means that through this careful and painstaking method a better quality of fruit will be shipped to the markets. In this manner there will be less decay, and that means a larger return, not only for the grower, but for the packer.

The advocates of the new Pomona county, to be formed of eastern Los Angeles and western San Bernardino, are making a strong campaign. One of the features was a recent tour of nearly 100 automobiles with enthusiastic promoters of the proposed county.



No. 2 Sunshine Orchard Disc Harrow

A Disc Harrow without levers, yet easily and fully adjusted.
Without pole.
Frame below tops of Discs.
Cannot injure trees or hurt your horses' necks.
Can be furnished with shield and extension irons to cultivate under the largest trees.
Find out all about it by writing to Department "A."

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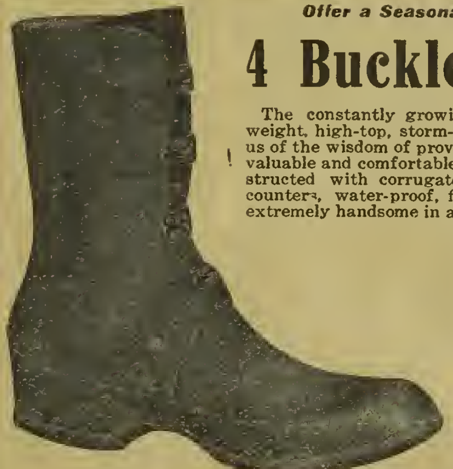
THE Wm. H. HOEGEE Co
TENT MAKERS LOS ANGELES



Offer a Seasonable Suggestion
4 Buckle Arctics
The constantly growing demand for a light-weight, high-top, storm-proof shoe has convinced us of the wisdom of providing a full line of these valuable and comfortable articles. They are constructed with corrugated rubber soles, rubber counters, water-proof, fleece-lined tops, and are extremely handsome in appearance.
Price per pair
$2.50
Postage 43 cents

Planet Jr.

Cultivate with the right implements
Larger crops with less labor and bigger profits are yours when you use Planet Jr. Orchard and Universal Cultivators.
They cultivate thoroughly, at any depth, and up to 7 feet 9 inches width at one passage. Strong and lasting. Equipped with side hitch, fruit tree shield, and a full set of attachments for cultivating, furrowing, or hoeing in orchard, vineyard, or hopyard. Fully guaranteed.
Thousands of Planet Jr Cultivators are in successful use in California and other fruit-growing districts, and their sale is growing bigger and bigger.
We carry stock in San Francisco. Write us for 1908 illustrated catalogue of Planet Jr. Orchard Cultivators, Beet Cultivators, Seeders, Wheel Hoes and other impliments—45 kinds in all.
S. L. Allen & Co. Box 1106P Philadelphia, Pa.
Write for name of our nearest agency

Nitrate of Soda
Large or small lots. Send for circular and prices.
R. A. HOLCOMBE & CO.
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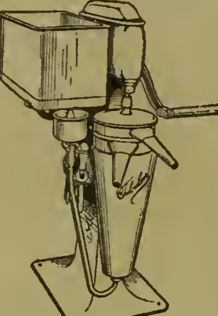

Because You Need The Money

It's your business and if you don't attend to it, who will? You cannot afford to keep cows for fun. That isn't business, and, furthermore, it isn't necessary. There is money in cow keeping if you go at it right, and besides there is more fun in going at it right than there is in staying wrong.

You need a Tubular Cream Separator because it will make money for you; because it saves labor; because it saves time; because it means all the difference between cow profits and cow losses.

Look into this matter; see what a Tubular will do for you and buy one because you need it.

How would you like our book "Business Dairying" and our catalog B. 260 both free. Write for them.

The Sharples Separator Co.
West Chester, Pa.
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CUTTER'S Anthrax and Blackleg VACCINES

Are given the preference by 80% of California stockmen because they give better results than others do.

Write for prices, testimonials and our NEW booklet on Anthrax and Blackleg

The Cutter Laboratory
Berkeley, California

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Nelson Teeter, Corona, Cal.
Successor to Peabody Wall Co.

Registered Jersey Cattle

Several young Bulls for sale. Also the famous B. B. Marigold Bull, 5 years old.

Berkshire Hogs

Young stock for sale. Address

Nelson Teeter, Corona, Cal.

SOUTH BEND ORCHARD CULTIVATOR

Acknowledged the best, 5 feet wide. Spring teeth if wanted. Horizontal lift. No neck weight.

AGENTS WANTED

Steel and malleable iron. Dust proof wheels.
ARNOTT & COMPANY, Los Angeles, Cal.
Write for Catalog. 112-118 S. Los Angeles St.

VENADERA HERD OF REGISTERED JERSEYS

FOR SALE—RICHLY-BRED YOUNG bulls from cow having High Official Yearly Records. Also a few heifer calves of best breeding. For particulars address.

GUY H. MILLER,
Route 3, Modesta, Cal.

Thoroughbred Poland China Swine
Black Minorca and Barred Rock Poultry
High Grade Stock of Best Strains.
Young Stock For Sale
M. Bassett Hanford, Cal.

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Thoroughbred Holstein Bulls and Heifers
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The Whiting Jersey Stock Farm Company
Is making the very best strains of blood fresh from the island of Jersey a specialty.
Whiting Jersey Stock Farm Co. Heber, San Diego Co., Cal

Poland Chinas For Sale
18 head of Thoroughbred Poland Chinas of both sexes, some of them weigh 150 pounds. W. R. McCaslin, R.F.D., Oak Park, Sac. Co., Cal. Roosevelt Ave

Live Stock and Dairy

BUILDING UP THE HERD.

THE quickest way is by the registered sire, first breeding for quantity and then for quality, if a Holstein or Ayrshire is used. If the choice falls on a Jersey or Guernsey, first breed for richness then for quantity. This at least is the way it usually works out in a herd. The cows that make big records are not today found among the class of enormous quantity or of excessive richness. The cow that makes enough four to four and half per cent milk are the ones that are crowding the high records. Each generation, however, should be a distinct improvement over the preceding one.

Sire Cost.

The cost of a registered sire may seem great at first, but after a few calves are cows, if the selection has been wise, the money comes back quicklly. If the gain on each cow is only twenty pounds of butter fat in the year, on fifty cows that will be a thousand pounds increase. Put this at the low valuation of 25 cents per pound and the total reaches the price of the sire, with interest and cost on maintanence added, or $250. The tendency is to sell off a sire before his value is known. It is a good way to keep the original sire been satisfactory. When the cows with the first lot of cows, if he has and sire are all seven or eight years old sell them together. The next generation can be sold off at the same age. The dairyman that does best with a grade herd, works it up from common cows and after seven years sells off annually his mature cows. These cows are bought by the dairymen living near towns that cannot afford to raise the calves, yet want cows that are good milkers fully matured, to milk for five or six years.

Dual Purpose Cows.

These are hardly to be considered by the ordinary dairyman. I have not found them in breeding up from grades. They do exist, but are an accident, not a type, for they will not reproduce themselves. The calf of the dual purpose cow is always "more so;" that is, she is either more beef or more dairy than the dam. Now if the dual purpose cow is bred to a common sire the offspring becomes hopelessly mongrel. When range and ranch are combined more beef and less dairy, or more dairy and less beef in certain years, it is sometimes desirable to have Several men I know have followed this plan and found it profitable. A full blood dairy sire is kept and a full blood beef sire is also in use. The milk cows that are superior are bred to the dairy sire the rest to the beef sire. Now comes a year when more dairy heifers are needed, then more cows are bred to the dairy sire. The males are made into veal. Then comes a year when more beef is wanted, then the beef sire is used and if too many heifers are born, they are sprayed and sold as beef. The number of head of stock are kept evenly balanced in this way so that neither dairy or range is overstocked.

Dairy Steer.

We may struggle with the meat buyer all we like trying to convince him that a dairy steer is as good for beef as a beef-bred animal. I doubt if there is the difference in the beef they would have us believe. The old plea that the beef was slippery, I think can hardly be true. Along this line there is a bulletin published by the Iowa Experiment Station. It covers fully the results of feeding two groups, one of dairy and one of beef steers. Two pure bred Holstein 24 months of age, two Jersey steers 18 months old. The average weight of these steers was 574 pounds. This, it will be seen, was light for a two-year-old Holstein bull should weigh 1000 opunds; 800 would be the least weight that would be acceptable in him to a breeder. These steers were extreme dairy type doubtlesslly. Two 16-months-old Herefords and two 18-months old Angus represented the beef type.

Care.

The entire bunch were stall fed, and every ounce of food given them was weighed. Hay and green sorghum for roughage. Corn meal, bran, oil meal and gluten for grain ration. Now, for results: The beef steers weighed 675 pounds each; dairy steers 574 pounds each; beef steers' cost $47.27 and the dairy steers $45.18. The beef steers gained 606 pounds each, while the dairy steers gained 597.75 each. The daily gains for each type were, beef 1.66; dairy 1.63 pounds. Cost of gain in cents per pound were for the beef 7.81 cents, while the dairy steers made it a little cheaper 7.63 cents. The great difference now comes in the profits of selling. The beef steers brought in 4.88 cents per pound or $60.83 per steer. The dairy steers sold for 3.72 cents per pound or $42.66 per steer.

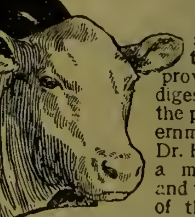
Prejudice.

While the beef steers distributed the fat more evenly than the dairy steer, the total average gain in their weight was but a trifle more. The beef steer has been bred to put the beef on the back, loins and hind quarters, while the dairy steer does not, in feeding, materially increase these parts of his body. The bulletin, however, shows that prejudice against the dairy steer is not well founded in the long run. Now the beef steers cost in dressed beef $218.95, and returns in wholesale prices were $232.61. This gives a balance of $13.66 or a net profit of $3.41 per head for the beef steers. The dairy steers sold for $170.67. The dressed beef equalled $152.29. The actual wholesale returns for the beef was $179.83. This gives a balance of net profit to the butecher of $27.54 or an average of $6.88 per head. The dairy type steer netted the butecher over 50 per cent greater profits than the beef steers. The station bulletin further says that the beef packers seem to use the existing prejudice against the dairy steers to hold down prices.

One of the interesting things I found out lately from an old meat packer, was the increasing weight of the beef steers of California. He told me that forty years ago the average weight of the steers sold to him was less than 800 pounds, now they had an average of thirteen pounds and so many were coming in that weighed

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Veterinary Instruments, Black Leg and Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.



Heavy Steers

A steer receiving a small amount of Dr. Hess Stock Food twice a day in his grain will consume, digest and assimilate larger quantities of coarse fodder and make steady growth from start to finish. This is because Dr. Hess Stock Food acts upon the digestive organs, keeping them in perfect health and activity.

Dr. Hess Stock Food is the prescription of Dr. Hess (M.D., D.V.S.) and contains tonics, iron and nitrates necessary to aid digestion, make good blood and cleanse the system.

DR HESS STOCK FOOD
A TONIC

is a perfect animal tonic. It causes rapid growth, increases milk yield and insures good health and condition in all farm animals.

Sold on a written guarantee.

100 lbs. $7.00; 25 lb. pail $2.00

Smaller quantities at a slight advance.

Where Dr. Hess Stock Food differs in particular is in the dose—it's small and fed but twice a day, which proves it has the most digestive strength to the pound. Our Government recognizes Dr. Hess Stock Food as a medical compound and this paper is back of the guarantee. If your dealer can't supply you, we will.

DR. HESS & CLARK, Ashland, Ohio.
Also manufacturers of Dr. Hess Poultry Pan-a-ce-a and Instant Louse Killer.

THE PETALUMA INCUBATOR COMPANY
Petaluma, Cal. Pacific Coast Distributers.

Wood Sole Boots and Shoes

We wish to call your attention to the fact that we have a large stock of Wood Sole Boots and Shoes of the very best quality. The Uppers are made of the very best quality Milwaukee Oil Grain. The Soles are well-shaped, and are an exact and comfortable fit, and our ***Patented Fastening*** makes this a ***Waterproof*** Shoe. We all know wood is a non-conductor, consequently it is much drier and a great deal ***warmer*** in Winter. They are lighter than Rubber or Leather Shoes and Boots. Shoes, $2.00; Boots, $3.25.

O. J. Weber Co. 555-557 S. Los Angeles St., Los Angeles, Cal.

Holstein Bulls
Jersey Bulls
Pedigreed and Registered Stock
Write Us What You Want
Berkshire Hogs
William Niles & Co., Los Angeles Cal.

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Frank A. Meacham, Proprietor.

Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to

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Berkshires--Shorthorns

My Berkshires took every blue ribbon and Gold and Silver Medal in the female classes. Choice pigs at low prices. G. A. Murphy, Perkins, Cal.

John Lynch Breeder of Registered **Shorthorns**
MILK STRAIN
P. O. Box 321 Petaluma, Cal.

Auction 370 Dairy Cows

Briggs & Weber, Auctioneers, 555-557 So. Los Angeles St., Los Angeles

150 DAIRY COWS and HEIFERS

Watson Ranch, January 22,' 08, at 10 A. M. Prompt

Midway between Compton and Long Beach, on the Pacific Electric Ry

This is one of the finest Dairy Herds in the State. Cows are all selected Dairy Stock, including 30 2-year-old Heifers and 10 Calves.

Also 2 span fine, large mules; 1 span matched light driving mares, 1 saddle mare, 1 standard-bred brood mare in foal to Zoloc, 2:05¼; 1 3-year-old mare in foal to Zoloc, this mare has stepped a mile in 2:21 after weeks work; 1 2-year-old filly, record mile in 2:30, entered in $10,000 stakes for this season; 1 yearling filly unbroken, also entered and paid up in $15,000 stakes for next season.

Also FARMING IMPLEMENTS, including farm wagons, plows, discs, reapers, milk wagons, buggies, etc., etc.

The Owners Invite Inspection Before the Sale.

TERMS: Six months' time on approved note. Liberal discount for cash.

FREE LUNCH.

Take San Pedro Electric Car at Sixth and Main streets, get off at Watson station on the ranch. Cars leave depot at 7:35, 8:45, 9:55, 10:55, 1:55 a. m.

C. BROWN, PROP. J. H. TORREY, MGR.

220 DAIRY COWS and HEIFERS

Santa Aan, January 24, '08 at 10 A. M. Prompt

McFadden Ranch Two Miles South of Santa Ana

This is without question one of the finest herds of DAIRY COWS in Southern California. Cows are all bred from thoroughbred stock and consist of selected Holsteins, Jerseys and Durhams.

Also two thoroughbred bulls, one registered; Lawrence Burrell Kennedy Milking Machine, six machines; gasoline engine, separator, electric motor, churn, pulleys, etc.

Owner Invites Inspection Before the Sale.

TERMS: Six months' time on approved note. 5 per cent discount for cash.

FREE LUNCH.

Take Pacific Electric Cars at Sixth and Main streets, for Santa Ana. Carriages will meet all electric cars.

JAMES McFADDEN, OWNER

400, that it would only be a few years until that weight is exceeded. The values of little things is shown here clearly; I wish every dairyman would increase the milk flow of his herd in 1908 a hundred pounds a head and the butter output in proportion. The little in each cow shows up big in herd at the end of the year. "Trifles make up the sum of human hings."—M. E. Sherman.

PASPALUM AGAIN.

Regarding paspalum, about which some interest has been created by recent articles in the Cultivator, we have the following from Herbert J. Rumsey, Dundas, N. S. W.

Your favor to hand regarding paspalum grass. The introduction of this grass to our northern river districts has been so beneficial that prices of land have gone up from where it was hard to move at £2 per acre to being ready sale at £12 to £20 per acre and some farms changing hands at much higher figures than that. It depends altogether on your climate if the grass is to be the same value to you. The districts where it has been the greatest success with us have a rainfall of from 30 to 120 inches per annum and that with a high temperature. It is an essentially hot climate grass and a water grass; it will drain a moderately shallow swamp and turn it into fine pasture. If you have the temperature, as I think you have, it remains to be proved if your irrigation will equal the rainfall. It should if it will pay you to give sufficient.

Splendid hay and ensilage have been made from it, but as our people rarely go in for anything but grazing for dairying in the districts where the grass flourishes, no exhaustive experiments have been made as to its treatment under continual mowing. I have seen the oldest paddock of it which has been closely grazed for 16 or 17 years and the hundred-acre farm still supports 100 milking cows with their increase perhaps to an average of nearly twelve months before they are sold, and on this farm I saw cattle grazing in the grass which was nearly up to their backs in late autumn.

Paspalum dilltantum smothers out all inferior grasses, also those of a perhaps better feeding value; it is impossible to kill it out; it stands fairly heavy frosts, though it goes brown and is not improved by it.

Seed is generally scattered broadcast in the ashes after clearing fires or in the corn which is the first crop (in fact generally the only crop) or roots are chipped in with the hoe at intervals of about four feet leaving it to fill in the gaps by the seed which quickly matures. The grass transplants well if sufficient moisture is present, and the seed may be sown in a bed and transplanted afterwards. The seed ripens unevenly and as a result that obtainable varies very much in germinating. Cheap seed reaped and thrashed by the farmer sells at a few pence per pound, but would not germinate more than 30 per cent, while selected "first shakings" goes 80 per cent or even more; this seed is worth 2 shillings per pound.

In conclusion I would like to say the grass is of phenomenal value where it is suited, but not worth anything if conditions are unsuited, and it is only by trial that you will find out.

AN OPPORTUNITY.

Briggs & Weber, the livestock auctioneers, are about to pull off a couple of public sales of livestock which will offer an opportunity to dairymen to secure additions to the milking herd. These sales aggregate 370 dairy cows, which makes the occasion of more than ordinary importance.

The first sale is at the Watson Ranch, south of Compton, on the Long Beach line, on Jan. 22. At this sale 150 cows will be sold. These are all closely selected stock and fine milkers. In addition a number of fine horses will be offered, also implements and wagons.

On Jan. 24 the next sale it to be held at the McFadden Ranch, near Santa Ana. At this sale 220 dairy cows, milking machines, implements, etc., will be sold to the highest bidders.

Terms are offered and the man who takes advantage of these sales will find some bargains.

The horn fiy is said to be one of the worst pests that the Hawaiian Islands have to deal with. It has been on the islands for ten years and has multiplied at an extremely rapid rate.

Only One "BROMO QUININE"
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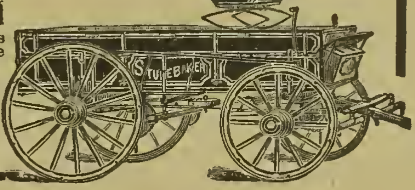

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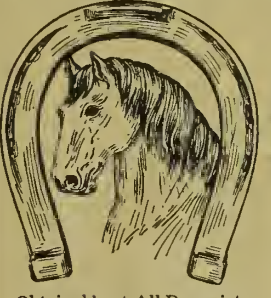

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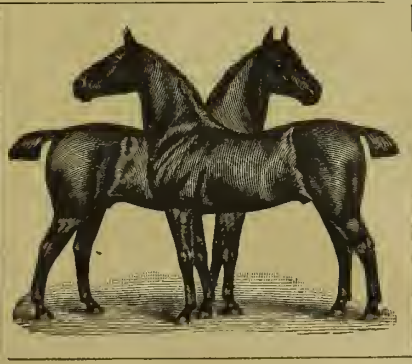

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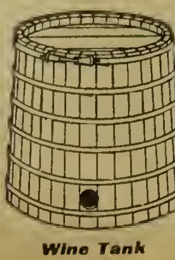

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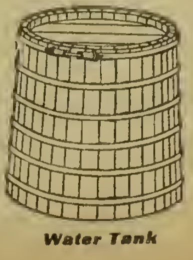

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Deciduous Fruit Culture

VITICULTURE IN EUROPE.

IN THE Journal of Agriculture of Victoria, N. S. W., we note an extended report from a member of the experiment station force on vine cultural conditions in Europe. From it we quote:

I reached Marseilles on 22nd July, and on the following day proceeded to Montpelier, in the neighborhood of which town I spent over a fortnight visiting vineyards, nurseries, collections of vines and experimental plots. From Montpelier I proceeded via the valley of the Rhone to Switzerland where I arrived on 22nd inst., after breaking my journey at various points of viticulture interest, and also visiting Aubenas and Vallons on the Ardecre, and Vaucluse on the Sorgue, which I reached by branch lines from the Rhone. The main centers I called at on the Rhone were Avignon, Montelimar, Tain, Valense and St. Vallier; in the neighborhood of each of these towns I made numerous excursions.

Montpelier and its neighborhood presents a vast field for the study of modern viticulture and more especially of reconstitution on resistant stocks. Its vinegrowers were among the first to recognize in the use of the American vine the true solution of the Phylloxera problem. The question was studied in the most thorough manner possible both by private growers and by government institutions, cheifly the National School of Agriculture of Montpellier, which is now everywhere looked upon as the final Court of Appeal in matters viticultural. The influence of this celebrated institution is everywhere evident in the neighborhood—the enlightened vineyard proprietors of the region eagerly co-operated, assisting by every means in their power, but chiefly by the establishment of experimental plots on such a scale that the whole country practically became one vast experimental field.. The results obtained, carefuly compared and studied by the leading viticultural authorities of France, have placed matters on such a footing that growers in the district are now able to plant with certainty of satisfactory results.

The question of the use of American stocks is most complex and its study in different centers often presents strange contradictions—it is only by experimental work in each locality, extending over a series of years, that the true value of each stock, for any given locality, can be accurately determined. It is the thorough manner in which this experimental work has been carried out that has made Montpellier the center to which all countries now turn for the latest viticultural information. This result has not been achieved without frequent failures. Thousands of acres have been replanted several times over; the stocks first used proving unsatisfactory, they were replaced by others on which brighter hopes were founded. Reconstitution has been an established fact for nearly 30 years. Of the stocks first used, the vast majority are now obsolete.

Until recently, the vine was by far the most profitable culture in this part fo France. From Cette, on the west of Montpelier, to Lunel on the east, the whole country is one vast vineyard; every available acre, except a few stony outcrops, being under vines. Seen from the train, even at this dry time of the year, it presents the appearance of a sea of green, only interrupted by an occasional village, the roads, dusty and white in the strong sunlight, and the cellars, farm biuldings and dwelling houses of large estates, numerous in these parts.

Before proceeding further I must place on record the very cordial manner in which I have been received by those with whom the work of my mission has brought me in contact, without a single exception. No thought of commercial rivalry or competition has ever prevented those whom I have had the good fortune to meet, officially or privately, from doing their utmost to aid me in every way in their power.

Phylloxera.

Except in a few out of the way places, phylloxera is now seldom heard of in France. It is, of course, always there, but with practically the whole country reconstituted it is powerless to injure any but vines grafted on stocks which are not sufficiently resistant. I have seen some vineyards where phylloxera has been combated by other means than grafting, viz., plantation in sand, by submersion, and by the cultivation of direct producers. In isolated cases one or other of these may be of use with us. I have collected full information. But the true solution of the phylloxera problem is now and probably always will be grafting on resistant stocks.

Grafting on Resistant Stocks.

The only points discussed now-a-days are in connection with the choice of stock, in view of conditions of soil, climate and eion. Resistance to phylloxera is the first and most vital requirement. Many of the early stocks were wanting in this, and if not killed outright, they suffered from the insect, at least when grafted, to such an extent as to render their use unprofitable in all but a few soils unsuitable for the life of phylloxera. These stocks are now obsolete. Opinions concerning adaptation and affinity and the influence of the stock on the quality of the wine, differ greatly. The advice given in one district is sometimes quite the reverse of that to be obtained in another. This renders the greatest caution necessary.

Riparia.

This was the first pure American species used in France on a large scale. Selections were made from the wild vines shipped from the State of Missouri, U. S. A., among which Riparia Portalis or Gloire, as it is now more generally called, soon proved superoirity. It is the only Riparia now used in France on a commercial scale. Though I have not been able to learn anything very serious to the detriment of Riparia Grand Glabre, except that it is generallly held inferior to Goire, there does not seem to be much inducement for us to continue its propagation in Australia, since it has been abandoned in France. Riparia Gloire, in common with Riparias generallly, combines good qualities with some serious defects. It knits its grafts well and cuttings strike readily. Vines grafted on it commence to bear early and are remarkable for the regularity and abundance of their yield. The time of ripening of the fruit is also hastened. The defects are serious. As its name denotes it requires a free, rich, deep and well drained soil—what is known in France as Riparia soil. Planted in soils which do not suit it, it makes but litle growth and bears poor crops. It is a short-lived variety and even in suitable soil, after a few years, it loses vigor and ceases to give profitable results. I have seen blocks which, through excessive production, had become almost sterile at as early an age as seven years. In some cases vigor has been restored by exceedingly short pruning for a year or so. Large areas of Riparia on unsuitable soil have been and are now being uprooted annually and replaced by vines on more suitable stocks.

Even in suitable soil, a vineyard proprietor considers 20 to 25 years to be the life of a vineyard grafted on Riparia. In our dry Australian climate it will be well to employ Riparia with caution. Vines grafted on it must not be pruned too long or they will rapidly exhaust themselves. In the majority of cases, as is now generallly being done in France, it will be better to select other stocks in its place even in Riparia soils. In these the hybrid 3306 gives equally satisfactory results combined with greater durability. They seem to retain, in a high degree, the precious qualities of the Riparia parent without its most serious defects. A few years ago Riparia was employed in France far more extensively than any other stock; now a days, though still largely used, its popularity is distinctly declining.

Rupestris.

Of the numerous Rupestris at first selected and extensivelly propagated, only one is now in use on a large scale in France. This is the Rupestris du Lot or Rupestris Monticola, by which name, as well as several others, it is also known. The other Rupestris, such as R. Ganzin, R. Martin, R. Metallica, &c., are now looked upon as obsolete. I cannot hear of any definite charge being brought against them, but am assured on almost all sides, that they have been found inferior and discarded. I shall therefore, confine my remarks to R. du Lot.

This stock has recently given rise to more discussion than perhaps any other, and even now it is impossible to accurately judge its true value. Owing to its extraordinary vigor it has many friends and has been planted very extensively. Some growers who have cultivated it for years prefer it to all other stocks and use it for new plantations, and for replacing faulty or dying vines in their vineyards. Others give it a bad name, saying that it fears drought more than Riparia, and that it is much given to set badly the fruit of vines grafted on it. Some again, amongst whom I may mention no less an authority than M. Couderc, question its resistance to phylloxera. I have seen cases of vines affected in his vineyards near Aubenas.

In the Montpellier district this stock is very highly thought of and largely used. In the majority of cases it is preferred to other stocks in all soils, except those which are too moist, or which contain an excess of lime. Soils containing more than 25 per cent of carbonate of lime are not suitable for this stock. I have seen R. du Lot grafted with many different cions, both in the vineyards on a very large scale, and in single rows in experimental plots, alongside of rows on other stocks. In soils which suit it, at least near Montpelier, it has always been able to hold its own. The vigor of its grafts is very fine and their fruitification very satisfactory, though, as a rule, somewhat less than that of vines on Riparia stock in their prime. As regards durability it far surpasses Riparia. Though a later importation than the last named stock, it is now being used on a large scale for a sufficient number of years to abundantly prove its value in localities for which it is suited. Near Montpellier I have not been able to find a case of insufficient resistance to phylloxera on R. du Lot.

It is, as has been said, a very vigorous stock—excess of vigor is sometimes for imperfect setting of the fruit. This is one of the chief faults found with Rupestris stock. If grafted with varieties liable to set badly, the crop is usually light, especially when the vines are young—long pruning remedies this to some extent, but as a rule, it is an unsatisfactory stock for shy bearing sorts. This tendency is very evident in experimental plots where rows of different stocks grafted with the same cion are to be seen growing. side by side. Take for example, Aramon on Rupertris and on Riparia. The bunches of the former are distinctly looser and more scattered than those of the latter. With such a heavy bearer as Aramon this is of little importance, the big, loose bunches borne on Rupestris yielding as much wine per vine as the more compact ones on Riparia. But with les prolific "cepages" this peculiarty must not be lost sight of; also in the case of table grapes, many of which set their fruit badly. On the other hand, certain table grapes with too compact a bunch may be improved by this tendency to scattered berries. Vines grafted on R. du Lot ripen their fruit usually a week later than the same kind on Riparia. This point should be taken into consideration when selecting stocks for table grapes.

From what I have seen near Montpelier I am convinced that in this particular locality, and grafted with the heavy bearing cepages of the region, Rupestris du Lot gives absolutely satisfactory results in the vast majority of cases. The soil about here is deep and usually gravelly or stony and easily penetrable by the roots of the vine. Where the subsoil is clayey or otherwise, impenetrable results are less satisfactory. Though growth may be sufficient, vines grafted on this stock are apt to lose the leaves near the base of the canes prematurely, thus exposing the grapes to sunburn. In such cases R. du Lot may suffer from the drought even as much as Riparia.

At Vaucluse R. du Lot is almost as popular as near Montpelier. M. Tacussel uses it as a stock for table grapes, especially for such kinds as are to close in the bunch. At Aubenas and at Vallons this stock is held in less esteem; at the latter place, it is said to suffer from drought even more than Riparia. The case of insufficient resistance to phylloxera at Aubenas has already been referred to. It occured in a block of mother vines grown for the production of grafting wood—several depressions were noticable.

On the Rhone, at the Hermitage, St. Peray, Cornas, &c., this stock is also unpopular. Syrah (our Shiraz or Red Hermitage) grafted on it takes too long to come to full bearing, and often suffers from the partial non-setting of its fruit, known in French as Millerandage. Here again I was informed that Rupestris suffered from drought more than Riparia. On the Rhone, Hybrid No. 3309 is found to be the best stock for Syrah. All new vines planted are grafted on it. R. du Lot is rather susceptible to Pourridie or root rot in soils liable to this disease.

From the above it is evident that R. du Lot is a stock which should not be too extensively planted without careful consideration. Growers must avoid being led away by its remarkable vigor (as happened frequently in France) to preferring it to other stocks which, in certain soils at least, will give better results. In soils which suit it, such as the deep soils of Montpelier, and for suitable scions, it can confidently be recommended as one of the most vigorous, most durable and generally satisfactory stocks.

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THE UNEMPLOYED.

The country is approaching a crisis; if, indeed, it is not already here, when what to do with the unemployed, the workingman out a job, will be the paramount question.

There are today a million men in these United States out of work. In this number we do not count the professional tramp, nor the proverbial lazy liver, who labors only when he has to, to keep from starving, but the skilled laborer, the common laborer who desires to be employed as a matter of choice and of education.

It is these people who we have an interest in and of whom the public must think, for it is these we owe consideration and should provide for.

In a country like this, where prosperity abounds, there ought never to be a time when a man who wants work can not obtain it. Usually there is work for every man who wants to labor, but in times of industrial depression the opportunity is not present and the honest man is left to shift for himself. It is just such an occasion the country ought to provide for.

The question comes then, how shall this be done?

We answer, in times of great industrial prosperity, when the country is flush in commercial expanse, by a system of appropriation create a public fund, in every State, to be used in times of depression in making public roads and building bridges. Our public highways are the arteries of commerce. Upon these depend the farmer and the business man. Without good roads the farmer is compelled to add at least 25 cents a ton to every ton of produce he hauls to market. The loss of time, wear and tear of horses, harness and vehicle, make up this loss. What are a few cents on the dollar added to his taxes, if thereby he saves 25 cents a ton on every ton he hauls to market? He makes the extra tax on every load he hauls.

Then, too, with labor employed, he finds a higher market for his produce, for people who have no money can not buy provisions as they would do were they at work. The man who works is the man who eats, and with labor active the produce market is always good.

Our idea is that every State should have an industrial fund, controlled by a State officer, a fund accumulated far in advance of its immediate needs, created by a small tax annually levied through years of prosperity, to be available in hard times. This fund should be judiciously expended on the roads, on bridges and culverts, until each State has a system of highways complete and serviceable for all purposes of public use.

With such a provision every man can be provided with work. None need be idle. In times of financial stringency and industrial stagnation, the State will be able to take care of its unemployed until the hard times pass and prosperity comes. We have reached a point where we must consider the needs of the million people without work. This million may grow to another million for aught we know, and it is cheaper and better to prepare for industrial aid in time of plenty than to be compelled to create standing armies to suppress revolution caused by hunger-crazed mobs in time of famine.

Truly we are on the threshold of a new condition as it relates to honest American laborers and it is the part of wisdom to provide for the future if peace is to be maintained in the country.

OUR INDUSTRIAL PROGRESS.

Statistics are far enough compiled now to give us a definite idea of the marvelous advancement the United States has made along the line of agricultural development in the year just closed. Notwithstanding the inconvenience sustained during the last two months of 1907, by the financial stringency, the figures do not show that the country has been very seriously affected, nor that the fundamental conditions on which the prosperity of the nation is based have been materially changed .

This financial crisis is merely a temporary condition which will pass away with the annual adjustment of business affairs. It will not lessen the increase of our population, which is now averaging over 2,000,000 annually.

It will not lessen the productive possibility of the soil, but stimulate it to a degree, as the trend of men is from the cities, now, toward the country. There will be a much greater per cent. of increased farming owing to the late business disturbance.

The only effect we may notice, for a time, will be the temporary halt in consumption requirement. There will be no permanent diminishing of our growth, only a resting spell, of brief period, after which we shall forge ahead with a prosperity far more marked, in the next ten years, than we have witnessed in the ten years preceding.

In all the development of our country there is nothing more remarkable than the advance in the prosperity of our farmers. Nothing more strikingly tells the story of national upbuilding than the statistics of what the farmers have wrought and of their progress in wealth. The value of all farm property in the United States in 1907 is given at $7,400,000,000, a growth of $650,000,000 over 1906.

The reports of the Department of Agriculture show that the increase in the value of farm property between 1900 and 1906 amounted to nearly $8,000,000,000, or but little less than 10 times the aggregate capital of all the national banks in the United States, finds its explanation in the value of farm products. Beginning with the census year of 1870, we have the following, quotes the Manufacturers' Record:

Value of Farm Products.

1870	$1,958,000,000
1880	2,212,000,000
1890	2,466,000,000
1900	4,717,000,000
1905	6,415,000,000
1906	6,750,000,000
1907	7,400,000,000

Taking the figures given by the sam authori we find between 1870 and 1907 the va[illegible] fa products has risen from less than $2,000,000,0 to $7,400,000,000, the value in the latter year l ing three and a-half times as great as that in t former, although during the same time the nu ber of people engaged in agriculture has not qu doubled. The total number engaged in agric ture in 1870 was 5,992,000, and the total numb at present is 11,500,000. This remarkable chan is shown in the fact that the value of agricultu products per capita for all engaged in agricultu which was $286 in 1880, has been steadily risi until in 1907 it is over $600 per capita.

In the development of manufacturing we ha seen an increase commensurate with the progr in agriculture. The value of all manufactu products, which in 1870 was $4,232,000,000, is n running at the rate of over $17,000,000,000 a ye the aggregate of manufacturing products and m eral output being nearly $19,000,000,000. Added the $7,400,000,000 of agriculture, this gives us total of agriculture, minerals and manufactu of considerably over $26,000,000,000, against $ 000,000,000 in 1900 and $12,400,000,000 in 1890.

These facts and figures, which tell someth of the foundation for future advancement in way of natural resources and geographical lo tion and something of the progress which been made in agriculture and manufactu should give us some conception of the marvel position which this country is to hold in world's trade and commerce. They also teach that we can have nothing to fear from tempor panics, as our resources are so stupendous t we can readily recover from any backsets cau by shortlived derangement of business conditio The progress of the last quarter of a cent is merely the beginning of our real broad natio advancement. What we have wrought in t period will be doubled, and in many things q rupled, during the next 25 years.

Shop Talk

DATE OF EXPIRATION. There is occas ally some misunderstanding about the date which subscriptions expire, and to make our sy tem plain to everybody, we wish to say that t date to which your paper is paid is shown on eve paper you receive. You will find it represent by the figures on the address label, and we wa to make it plain to everyone, the meaning of th figures showing this date. The first figure re resents the number of the month to which yo are paid, and the second figure the year; for i stance, 2-08 means February 1, 1908.

By noticing this label you can tell when yo time is out and when to renew. Our old subscri ers know our custom of continuing the pap after expiration, because most of our readers d sire that they miss no numbers which might bre the file they are keeping.

The subscription is supposed to be paid in a vance, though it is not insisted upon if it is convenient to do so.

After remitting or paying an agent, it is alw well to notice that the date on your paper h been properly changed, and if this is not do within three weeks, we wish you would drop us card notifying us of the fact.

AGENTS. A short time ago we stated thro this column that most of our traveling age had been withdrawn. We did not say that we h abandoned entirely this method of making collections, and in some sections we still h some agents at work. We will say, however, th any who may call upon you will be able to sh his authority to represent us.

Will also add that in those sections where agent is not working, or is not soon to wo we will mail notices from this office, and you w understand that you must remit direct to [illegible]

We think it well to make this announceme so all will understand that if you receive no n tice you may expect an agent to make collectio before very long.

HOG QUESTIONS. The book containing 5 answers to hog questions which we have adv tised in the two previous issues, as a premiu with the **CULTIVATOR**, it must be understo is sent only to those who pay an entire year i advance, and to those only who send their sub scriptions to this office.

We wish also to say that they are not se[illegible] Los Angeles, but will be mailed from [illegible] lishers in the East. By this, those wh[illegible] placed an order will understand the rea[illegible] for any delay and wait patiently.

Agricultural Notes of the Pacific Coast

Northern California

Petaluma is hatching chickens by electricity.

The Gridley farmer is ridding his barns of rats by the use of ferrets.

There are nearly 2600 acres of bearing grape vines in Sutter county.

The season's rainfall at Colusa totals 3.85. The same date last year was 5.01.

Stockton grain men report the business of grain buying very dull this season.

The State Veterinian is engaged in making a number of tuberculin tests near Vallejo.

The rainfall at Yuba city to date amounts to 5.05 or less than half of that of last year.

Sutter County Farmer says that the cheapest and best proposition in Sutter county now is land.

The great quantity of snow near Nevada City insures irrigation water for many of the lower orchards.

Gridley is promised a rural free delivery. The route to be 21 miles in length and to serve 121 families.

There are two corps of surveyors and sixty men with teams working on the big irrigating lateral near Willows.

Property owners in Butte county are petitioning the Board of Supervisors for the formation of a drainage district.

The central creamery of Humboldt county proposes to go after government orders for butter the coming year.

The Gridley Herald mentions that Mr. Hunter at that place made $500 from one-third of an acre of strawberries.

The Placer Fair and Improvement Company has been incorporated for the purpose of holding fairs at the Auburn race track.

The first rise in the Sacramento river recently caused the breaking of a levee in Colusa county which started from a gopher hole.

The date set for the citrus fair at Cloverdale is February 17th to 22d. Committees are now at work and planning for a big fair.

State Horticultural Commissioner Jeffrey is distributing maps showing locations of peach diseases in various eastern sections.

The plant introduction garden at Chico is still distributing roots of the new Japanese matting grass propagated there during the last year.

Turkey thieves are making a raid on the roosts near Woodland and the poultry people are declaring that some of these days the thief will get his, all right.

A Fair Oaks fruit company reports the output of that section will be much greater than heretofore. Already 60 carloads of oranges have been shipped from that section this year.

Corning irrigators held a meeting recently at that city and appointed a committee to draft rules and by-laws for a permanent organization looking towards securing government aid for irrigation of that section.

The Sonoma County Co-operative Poultry Association held a meeting at Santa Rosa last week to receive bids for its eggs for the coming year. All bids were rejected because they were not satisfactory to the members.

Central California

A farmers' institute will be held at Kerman, January 29th.

Since October 26th Lindsay has shipped 840 cars of oranges.

The county division fight between Kings and Fresno is becoming more bitter.

The Turlock Journal says that dairy cows in that section average $12 per month.

The citrus district of Tulare county embraces 9,000 acres along the foothills.

Extensive plantings of Eucalyptus trees was made in the San Joaquin valley this spring.

Tulare county will receive about two and a half millions from her citrus crop this year.

Large tract of land is to be colonized and settled near Bakersfield known as the Kern delta land.

Kings County Fair Association held a fine fair this fall and ended the season with $85 in the treasury.

The shipment of Nebraska peach trees to Kingsburg is to be returned because of shipper failing to file bond.

State meeting of deciduous fruit men called by the California State Board of Trade is being held today in San Francisco.

Dinuba claims to have a melon vine which the past season bore 132 melons averaging 25 pounds to the melon.

Selma fruit growers held a meeting last Saturday electing delegates to the dried fruit men's convention in San Francisco.

Supervisor Forstenson of the National Forest at Arroyo Seco, near Salinas, has many men building trails and fire breaks.

The Horticultural Commission of Kings county is holding a shipment of fruit trees at Hanford which were shipped in from Nebraska, refusing to delivery until a bond is put up by the shipper.

The Turlock Journal is appealing for more extensive growing of vegetables in that section. With its water system, excellent soil and nearness to a great market it should be profitable.

An advance in the quotations on raisins is anticipated soon as the outlook in the East is very favorable. The Fresno Republican estimates that there are not more than 12,000 or 15.000 tons left in growers' hands.

The Kings County Agricultural Association held its annual meeting recently in Hanford and closed the business for the year and elected the following directors: President, George A. Dodge; First Vice-President, A. C. Bourges; Second Vice-President, Joe D. Biddle; Third Vice-President, M. P. Costa; Secretary, M. P. Avilla; Treasurer, A. F. Nunes.

The Horticultural Commission of Kings County called a meeting last week at Hanford at which about 100 fruit growers were present. Resolutions condemning the recent ruling of the Department of Agriculture, were adopted and the following delegates were elected to the San Francisco meeting: W. H. Brailsford, A. V. Taylor, Robert Kimble, C. M. Blowers, A. C. Eccles, Mark Bassett, A. M. Stone.

Southern California

Last week's light rain did much good to grain and hay crops.

Ventura county will ship nearly $2,000,000 worth of lima beans.

A pickle factory with a capacity of 500 barrels is to be a new feature at Huntington beach.

Highlands fruit growers are getting together to construct an extensive storm water drain.

And now a Santa Ana orange grower maintains that hydrocyanic acid gas is injurious to orange trees.

Imperial county, which has never had telephone connections with the outside world, hopes to be on talking terms with Los Angeles soon.

The Department is to establish a weather station near the Salton sea to make observations as to the effect of that body of water on the climate.

The new packing-house and pre-cooling plant of the Pomona Fruit Growers' Exchange will be completed in about a month. It will cost about $14.000.

Southern California fruit growers met in the Chamber of Commerce last Tuesday and elected delegates to the dried fruit men's convention at San Francisco.

A suit is now between the Rialto Orange Company and the Citrus Union for fruit destroyed in the Citrus Union Packing house fire some months ago.

Paspalum grass which has been found so successful in dairy sections in Australia has been found growing wild along the Colorado river, near the Mexican line.

B. A. Woodford, general manager of the California Fruit Growers' Exchange, estimates that the citrus output of the State this year will exceed 30,000 carloads.

Several varieties of South American grass have been introduced and are being grown in Imperial valley which are said to do exceedingly well on overflowed land.

It is predicted that in five years the fire breaks of the San Bernardino Forest Reserve will be in such a condition that an extensive fire will be an impossibility.

Members of the Brawley Cantaloupe Growers' Association have signed a contract for next year, and it now appears that the total acreage will be about 1300 acres.

Orange pickers of the Santiago Association of Santa Ana who were paid $1.75 for nine hours work went on a strike demanding $2.00. They were let out and new people put on.

The Hosp Eucalyptus Company has been organized to grow nursery stock, also to put out large tracts of land to Eucalyptus timber. The nurseries will be located in San Diego county.

The new nurseries at Lytle Creek where the government will grow young trees for forest planting has 20 acres of fine land in its new location which will be covered with fine seedlings.

The California Vegetable Union has filed suit in the Supreme Court of Los Angeles against the California Celery Union to compel the latter to cease from using the word "Union" in its name.

The Coast

There are over 400 acres of oranges planted in Arizona.

Hood River apples have been shipped to Siberia this season.

Oregon's dairy output during the past year netted to that State $17,000,000.

Water has been secured to irrigate 75,000 acres in Lincoln county, Washington.

Half a million dollars is to be expended on the Klamath-Oregon irrigation project.

Over 9000 cars of apples were shipped out of the State of Washington this last season.

A short course at the Colorado Agricultural College runs from January 13th to 18th.

The Farmers' Educational & Co-operative Union has been formed at Pullman, Washington.

A total of 363,000 acres of land formerly untillable was reclaimed in the State of Washington this year.

The products of the orchards near Spokane, Washington, brought to that section nearly $3000 the past season.

A thousand cocoanut palm plants were recently received and planted on the island of Oahu, Hawaiian Islands.

Farmers at Mollala, Oregon, are about to establish a co-operative milk condensary, capital stock at $25,000.

A series of farmers' institutes is to be held in the counties of Klickitat, Kittitas, Yakima and Benton in Washington.

Two steers, one two years old and the other one year, sold in Pullman, Washington, for the neat sum of $200 recently.

A hundred thousand bushels of wheat is stored along the river near Pullman, Washington, waiting shipping facilities.

The Orange Growers' Association of Arizona claim that the returns for their dairy holiday fruit netted the growers over $1000 per car.

The Washington State Live Stock Association is holding meetings in every county in the State to organize auxilaries to the State organization.

There has been shipped from Arizona to the East so far this season, 92 cars of Washington navels as against 18 cars last season same date.

The 44th annual National Wool Growers' Association Convention is in session at Helena, Montana. It is estimated that 2000 wool growers are present.

The condensed milk factory of the Utah Consolidated Milk Company has recently been established at Fairview, Utah. The plant will cost about $60,000.

Arizona has a number of Indians who are raising stock and making money, apparently as easy as white men. One Indian near Tucson is said to be worth $75,000.

At a two days' session of a Farmers' Institute at Davenport, Washington, special attention was given to dairying, and scholars from the High School were in attendance.

This is a cut of the

NEW POMONA DOUBLE PLUNGER DEEP WELL PUMP HEAD

for raisiug water for all purposes. It is highly efficient, thoroughly reliable and the smoothest running deep well pump made. It is built in three sizes from 10 to 40 Horse Power. Send for new catalog to

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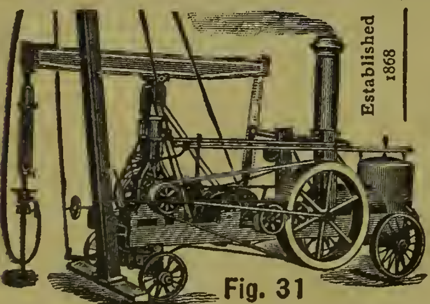

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Fig. 31

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Tell us about the formations, depth, diameter holes; will send printed matter and can save you money.

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Irrigation and Forestry

THE TORRENT.

And oft both path and hill are torn,
While wintry torrents down are borne,
And heap upon the cumbered land
A wreck of gravel, rock and sand.

ANTIQUITY OF AMERICAN IRRIGATION.

AMERICAN irrigation was old when Rome was in the glory of its youth says a writer in the National Geographic magazine. The ancient aqueducts and subterranean canals of South America, extending for thousands of miles, once supplied great cities and irrigated immense areas. Centuries before the venturesome Norseman landed upon the bleak and inhospitable shores of New England a large population dwelt in the hot valleys of our far southwest. From the solid rock, with primitive tools of stone, they cut ditches and hewed the blocks for many-chambered palaces, which they erected in the desert or on the limestone ledges of deep river canyons.

These voiceless ruins, older than the memory of many centuries, tell the story of a thrifty, home-loving and semi-cultured people, concerning whose fate history brings us no word. In these palaces and in many miles of canals we may almost read the story of another Egypt—a people toiling under the burning sun of the desert, wearily and painfully executing the commands of an American Pharaoh.

Coming down to a period less remote and only slightly less interesting, we mark the third page of our own written history. Here, in the sixteenth century, Coronado, the first great American explorer, swept up the Rio Grande valley and journeyed as far north as Kansas. In New Mexico he found a pastoral race dwelling in pueblos and practicing the gentle art of irrigation as had their forefathers, perhaps as far back as in the days of Abraham. Certainly their agricultural methods were in no wise different from those which prevailed in the days of the prophets. Even unto this day their grain is gathered in great willow baskets, is threshed by the trampling of sheep and goats and winnowed by the winds. Fields which were cultivated three centuries ago are still producing crops each year.

Some of these thoughts came to the government engineers as they ran their lines of levels in the valley of Salt river in Arizona, and it seemed to them a proper task for the greatest nation on earth to restore on more the oases of verdure which t desert had long ago obliterated.

During the last quarter of a ce tury a crop producing area of 10,00 000 acres, or another State of Mass chusetts, has been wrested from t desert. Irrigation canals lon enough to span the earth twice, a representing an outlay of $90,000,0 have been built. Every year th area returns a harvest valued at mo than $150,000,000 and 2,000,000 peop dwell in prosperity and contentme where only a short time ago t wilderness reigned.

Uncle Sam is today the large owner of the great American deser no doubt because it was not co sidered worth stealing. For man years the sentiment has been growing that the government should mak habitable this vast empire which is s great potentially.

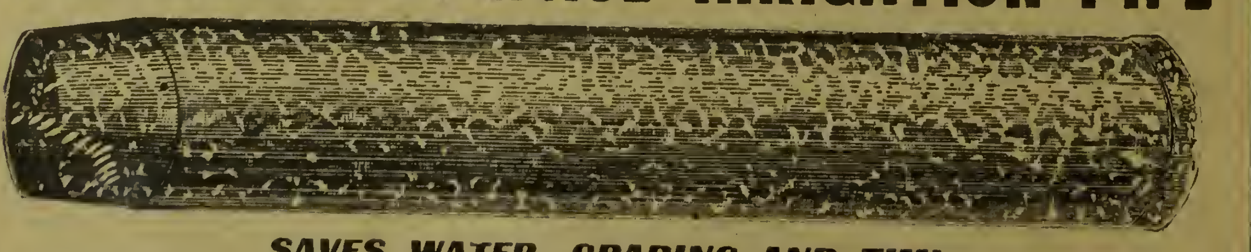
THE WASTE IN IRRIGATION.

The quantity of water which plant use forms but a small part of tha which is diverted from streams fo irrigation purposes. Large volume are lost by absorption and seepage i the earthern channels of canal systems. Similar losses occur in th laterals which supply our farms an a large part of the remainder i wasted in irrigating crops. An irrigator is chiefly concerned in lessening the waste of water in his suppl ditch and on his farm. In localitie where water is scarce, the suppl ditch should be made water-tight This may be done by lining the channel with cement concrete, cemen plaster, asphalt, heavy crude oil o clay puddle. Flumes or pipes ma also be used as a substitute for a earthen ditch.

One of the most common sources o loss of water is poor preparation o the surface. When the soil is irrigated by flooding from field laterals an uneven surface causes needless waste of water, extra labor in spreading it over the surface and smaller fields. The water flows into the low places, which receive too much and may become water-logged, while the high places are left witout water and the crop thereon is dwarfed. The surface between field laterals should be so evenly graded that water will flow in a thin sheet over the entire surface, the excess being caught up by the lower lateral.

Another common cause of waste i the lack of attendance. Water is often turned on a part of a field and permitted to run without attention for hours and even days. On some farms the irrigators look after the water for ten hours and turn it loose for the remainder of the day. Under this practice the low places receive too much, the high places little or none, and a large part flows off the field to the injury of the roads and adjoining farms.

Too shallow and too frequent irrigation is another source of waste. Wetting the surface and neglecting to cultivate it afterwards may result in the loss by evaporation of three-fourths of the water applied in this way. For most plants, and for all deep-rooted plants in particular, the ground should be so prepared that water will readily percolate to a considerable depth beneath the surface and enough water should be applied to moisten the subsoil. As we have said again and again in farming by irrigation, thorough and frequent cultivation is of first importance. It not only prevents the escape of large quantities of soil moisture into the air in the form of vapor, but it greatly improves the condition of the soil.—Field and Farm.



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Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

SOUTHERN CALIFORNIA POULTRY BREEDERS' SHOW.

THE annual show of the Poultry Breeders' Society was held at Chutes Park, January 6 to 12.

The officers of this association had done a great deal of hard work and were determined to make this the "best show ever" and have been repaid for their efforts. They have pulled off a show that is larger than last year, and have perhaps the largest list of individual exhibitors of any show to date in this end of the State.

This is the second show in Los Angeles this winter and we do not believe there is another town on the coast that could pull off two shows in one season, let alone two which are as large as the two held in this city.

The Score Card.

This show was a score card affair, which is considered by many to be more of an educational feature than is the comparison.

Personally, we are not a believer in score card shows; they will do all right for small shows, but when it comes to judging a show the size of this by card there are always disappointments, as it was Thursday before all ribbons were up.

Big Bunch of Leghorns.

One thing very noticable was an extra large entry of White Leghorns, which was larger than has been made for four years. We are glad to see this, as the White Leghorns have always been considered California's favorite fowl and we hope their admirers will see that they are given the prominence due them.

The pavilion at the Chutes is an ideal place for holding a show; in fact, it is the only place in Los Angeles large enough to accomodate the show.

In all, there were about fifty cups given and many of them were won by the "city lotter," which will have a tendency to encourage the beginner and small breeder.

Some Hard Work.

Dr. Winslow, of Monrovia, deserves a great deal of credit for the time he devoted, and hard work he did, and it is largely due to his efforts that the show was a success. Superintendent Andrews certainly knows the ins and outs of cooping a show, and seems to enjoy his work as well as he does explaining the good points in his Partridge Wyandottes.

The judging was done by Judges Harrison, Gunston, Matheson, Ironmonger and Goodacre, and certainly they earned their money. There were many new exhibitors on the list this year, yet many of the old campaigners were to be seen in the alleys telling why their particular breed or variety is the best and only on the list.

The highest scoring class in the show was the Buff Wyandottes reaching the exceedingly high score of 96½ points.

The weather was fine and attendance good.

Below we give the correct number in each class according to the count of Supt. Andrews:

Barred Rocks, 91; Partridge, 1; White Rocks, 84; Blk. Cochin, 3; White Cochin, 3; Buff Rocks, 12; Columbian Rocks, 1; Silver Wyandottes, 15; S. Laced Wyandottes, 15; Golden Wyandottes, 21; White Wyandottes, 46; Buff Wyandottes, 38; Partridge Wyandottes, 33; Columbian Wyandottes, 62; Silver Wyandottes, 15; S. C. R. I. Reds, 88; Rose C. R. I. Reds, 13; S. C. Brown Leghorn, 33; S. C. White Leghorn, 46; S. C. Buff Leghorns, 21; R. C. Buff Leghorn, 9; Silver Duckwing, 1; S. C. Blk. Minorcas, 45; R. C. B. Minorcas, 23; Light Brahmas, 20; Blk. Langshans, 23; White Langshans, 5; Red Caps, 6; Buff Orpingtons, 49; Blk. Orpington, 41; Jubilee Orpington, 3; S. C. White Orpington, 7; R. C. W. Orpington, 9; White Crest Blk Polish, 6; Golden Bearded Polish, 11; S. Spangled Hamburgs, 15; Houdans 12; Cornish, 31; Blue Andalusians, 20; Frizzles, 2; Cecilian, 2; Display pens, 81; White Cochin Bantams, 9; R. C. Brown Leghorn, 1; Blk. Leghorns Bants, 3; Bluettes, 2; Philippino Bants, 4; Blk. Tailed Japs, 17; Partridge Wyandotte Bants, 2; Silver Duckwing Bant, 2; Buff Cochin Bant, 27; B. B. Red Game Bants, 11; P. Cochin Bants, 15; Blue Yokohama Bants, 3; G. Seabright Bants, 4; Blue Andalusians Bants, 1; Silkies, 2. Birds removed during the show, 8; making a total of 1158.

Official Awards.

BARRED PLYMOUTH ROCKS—Fred Espe, Los Angeles, 1, 2, 3, 5 ck; 1, 2 hen; 1, 3, 4, 5 ckl; 1, pen; 4 pullet; Williams Bros., Los Angeles, 3 hen; A. Kuhlmann, Los Angeles, 5 hen; 5 pen; H. T. McCullough, 4 ck; 4 hen; 3 pul; 2, 4 pen; Geo. Bohlander, Los Angeles, 2 ckl; D. T. Weiland, 1, 2 pul; A. D. Robinson, Point Loma, 5 pul; David Mitchell, Los Angeles, 3 pen.

WHITE PLYMOUTH ROCKS—A. Rankin, Los Angeles, 1 ck; 2, 5 ckl; 2, 5 pul; N. E. Cowles, Gardena, 2, 3 ck; 5 hen; F. A. Holbrook, Santa Ana, 4, 5 ck; 3 hen; E. E. Emerson, 1 hen; 1 pul; Lake Avenue Poultry Yards, Pasadena, 2 hen; J. W. Whitney, Long Beach, 4 hen; 3 pul; 2 pen; H. H. Mumford, S. Pasadena, 1, 3, 4 ckl; 4 pul; 1 pen.

SILVER WYANDOTTES—A. E. Nelson, El Monte. 2, 3, 4 ck; 1, 2 hen; 2 ckl; 1, 2 pul; 1 pen; W. M. Starbuck, Fullerton, 1, 3, 4, 5 ckl; 3, 4 pul.

WHITE WYANDOTTES—E. B. Varian, Pasadena, 1 ck; 1, 2, 4 pul; 1 pen; J. W. Firestone, Los Angeles, 2 ck; 3 pul; W. Smith, Orange, Cal., 3, 4 ck; P. E. Lepides, Los Angeles, 5 ck; F. A. Harrington, Gardena, 1 hen; 3 ckl; 2 pen; L. E. Berkey and A. W. Huskins, Los Angeles, 2, 3 hen; 4 ckl; 4 pen; Stephen E. Banneck, Inglewood, 1 ckl; 3, 5 pen; Mrs. L. V. Marks, 2 ckl; W. F. Cleveland, Los Angeles, 5 ckl; 5 pul.

BUFF WYANDOTTES—O. S. Hoffman, San Jacinto, 1, 2, 4 ck; 3 hen; 2, 3, 5 ckl; 4, 5 pul; 3, 4, 5 pen; T. T. Gardner, Gardena, 3, 5 ck; 1, 2, 4, 5 hen; 1, 4 ckl; 1, 2, 3 pul; 1, 2 pen.

PARTRIDGE WYANDOTTES—Charles An-

PER 2 BUSHEL SACK $1.90 PER 2 BUSHEL SACK

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St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:

"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

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SILVER PENCILED WYANDOTTES—Miss W. Weyer, Compton, 1 ck; 2 hen; 1, 3 pul; 1 pen; C. W. Tilden, 2 ck; R. King, Los Angeles, 1, 3 pen; 2, 4 pul.

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L. BRAHMAS—Johl Holt, Tustin, 1 ck; 4, 5 hen; 2, 3 ckl; 1, 2, 3, 4, 5 pul; 1, 3 pen; W. R. Struthers, Monrovia, 2 ck; 1, 2, 3 hen; 1, 4 ckl; 2 pen.

W. COCHINS—W. J. Blackman, Los Angeles, 1 ckl; 1 hen; 2 pul.

BLACK LANGSHANS—J. M. Wright, Pasadena, 1 ck; 1 hen; 1, 2, 3 ckl; 1, 2, 4 pul; C. J. Moss, "Mossy Grove," Corona, 2 ck; 2, 4, 5 hen; 4 ckl; 5 pul; E. H. Williams, Pasadena, 3 hen; J. L. Albright, Cahuenga, 3 pul.

WHITE LANGSHANS—A. Vanderbee, Los Angeles, 1 ck; 1, 2, 3, 4 pul; 1 pen.

SINGLE-COMB WHITE LEGHORNS—Mrs. E. Foster, Los Angeles, 1 ck; C. M. Walton, Glendale, 2, 3 ck; 4, 5 hen; 4 ckl; 4 pul; 2, 4 hen; Williams Bros., Los Angeles, 5 ck; 2 hen; Swanson & Johnson, San Gabriel, 4 ck; 1, 3 hen; 1, 3 ckl; 1, 2, 3, 5 pul; 1, 3 pen; Goodacre Bros., Compton, 5 ckl; P. R. Doty, Los Angeles, 2 ckl.

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R-C. BUFF LEGHORNS—Dr. W. Holmes, Pasadena, 1, 2 ck; 1, 2, 3 ckl; 1 pen.

SINGLE-COMB BUFF LEGHORNS—W. Smith, Orange, 1, 2 ck; 2, 3, 4, 5 ckl; 1, 2 pul; Dr. S. E. Salisbury, Monrovia, 3 ck; 1 hen; 4 pul; 2 pen; Wm. Hunter, San Fernando, 1 ckl; 3, 5 pul; 1 pen.

SILVER DUCKWING LEGHORNS—E. L. Fich, Los Angeles, 1 hen.

SINGLE-COMB BLACK MINORCAS—H. A. Wheeler, Lordsburg, 1, 2, 4, 5 ck; 1, 2, 3, 5 hen; 1, 2, 3, 5 ckl; 1, 2 3, 4, 5 pul; 1, 2 pen; B. E. Ross, Pasadena, 3 ck; 4 pen; L. L. Test, Pasadena, 4 hen; 5 pen; C. C. Bonnell, Los Angeles, 4 ckl; 3 pen.

ROSE-COMB BLACK MINORCAS—M. E. Brown, Glendale, 1, 2 ck; 2, 4, 5 hen; 1, 2, 3, 4 ckl; 1, 2, 4, 5 pul; 1, 2 pen; J. Madison Wright, Los Angeles, 3 ck; 1, 3 hen; 3 pul.

BLUE ANDALUSIANS—Mrs. T. R. Griffith, Los Angeles, 1, 2 ck; 1, 2 hen; 1, 3, 4, 5 ckl; 1, 2 pul; 1, 2 pen; F. C. Jones, Los Angeles, 2 ckl.

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SINGLE-COMB BLACK ORPINGTONS—C. J. Moss, "Mossy Grove," Corona, 1 ck; Mrs. I. Gardener, Gardena, 3 ck; 3, 4 hen; Rose & Tate, Altadena, 1, 2 hen; 3 ckl; 1, 4 pul; 1 hen; Percy L. Harley, Redlands, 5 hen; C. A. Latham, Los Angeles, 2 ckl; 2, 3, 5 pul; 2 pen; G. M. Buntle, Los Angeles, 1 ckl.

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Concluded on Page 79

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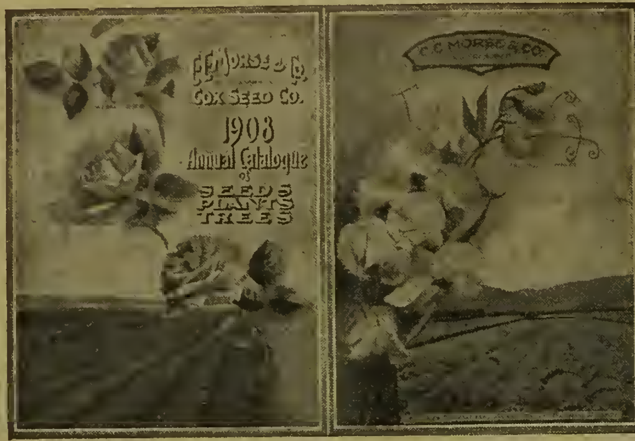

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SPARE THE MOLE.

We talk much about our bird friends and wish them protected, but we often neglect or kill our animal friends. Among these, by far the best, is the mole. The white grub is one of the most expensive and destructive pests we have, and unless their number can be reduced, they threaten to take the earth. They are the progeny of the June bug, which comes thumping against your windows on summer evenings. They will take possession of a piece of ground and destroy everything on it. Sometimes large patches of corn, in the richest grounds will be destroyed. They will often infest sod grounds and lawns. You have seen grass lands where the hogs were turned in and they ripped up the sod like torn blankets to get the grubs which they destroyed by the thousands. Sometimes they get into the nurseries and they never stop to count the cost, but destroy plants by the thousands. One year they killed a thousand dollars worth of evergreens for me and every year they inflict more or less damage.

Now, I am ambitious to have one of the finest collections of perennials of the country. I raise thousands of phloxes and am engaged in raising new varieties which are the joy of my life. I noticed that some of my choicest ones are being killed by grubs. It is next to impossible to dig them out. They would take a row of the best, where the plants were 50 cents apiece, and when they killed one, a sort of instinct told them to keep right on in the same row and so plant after plant was destroyed. Presently I noticed those little ridges thrown up which indicated the presence of moles and I said, "Now the avenger has come." You could see how they zigzagged around and caught the destroyers. It is supposed that moles eat the roots of plants. No, they are after the grubs and worms. They do not eat the roots at all, but they are after the rascals that do, and they do love the white grubs. When I came to dig the phloxes, I found grubs in the rows where they had made their blind furrows. A friend called on me while I was digging. He saw a mole at work. "Here, quick, dig him out and kill him." He had the prevailing spirit which says, "Kill him, kill him"—the spirit which invents mole traps. I said, "No, that little fellow is one of my best friends. He is worth a five-dollar bill." Complaint is made against him that he ridges up the lawns and destroys young plants, but he never goes where there are no worms or grubs. First, he prefers white grubs, and next he takes the angle worms.

Now naturalists may say what they will regarding the angle worm and how much good he does in passing great volumes of earth through his maw, but in the Nebraska prairie he is one of the worst pests. Our soil is generally light and friable and after he has worked in it a while it becomes like tough and hard adobe. When dry, your hoe will ring on it as if you were striking a brick bat. Such land dries out very rapidly and its value is reduced one-half. Whatever good he may do to other soils please keep him out of ours and when we see the moles after him, I say, "Sic 'em!" Sometimes moles will damage young plants by lifting them up so they dry out, but it does not take long to follow the ridges and tread them down.

In digging the phloxes, I could not see that they injured the roots any. I noticed several places where the grubs have begun to work and I was fearful of their depredations next year, but lately I see ridges which show that their enemy is on their track and they will clear the ground so that it will be safe to plant in the spring. What birds are above the ground to the insect pests, the mole is to the hidden enemies in the earth. C. C. Harrison, Superintendent Nebraska Experiment Station, York, Neb.

FARMERS LEARNING TO UNITE.

Farmers are learning to unite. In this united effort there will necessarily be more or less failures. They may try to unite on too many things at once. They may try to unite on too big a project. They may have to learn more about union of effort before they make a complete success of it. The spirit of union and of combination is abroad throughout the country districts as well as in the financial centers.

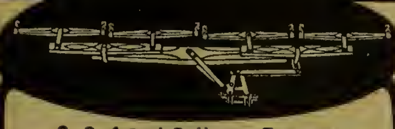
Successful dairymen, successful poultry raisers, successful beekeepers, all will tell the beginner that it is safest and best for him to begin in a small way, to grow up with the business. The same principle may be found profitable in the matter of united effort among farmers. When half a dozen fruit growers have learned to work together harmoniously and successfully in marketing their products, they have laid the surest foundation for a larger organization. During the humbled beginnings of united effort they are learning how to surrender some of their opinions to the common judgment, how to convince others or to be willing to be convinced by others.

Not only this, but during these days of smaller affairs they are finding out who among themselves is best suited for leadership. More than half of the trouble with the fruit growers' associations arises from the fact of the unwise choice of a manager. They choose a man whom they think will be efficient, but he has not been tried. He may be a successful talker, but he may lack the excutive ability.

It is encouraging to see the organization of these smaller unions among the farming classes. A new item from western Washington tells of the union of small fruit growers around Montesano, the Chehalis county seat. The fruit industry is largely in its beginning in that section and these smaller growers are taking time by the forelock and preparing to dispose of their product at a remunerative price. So they have united and as a result of that union they are assured a fruit cannery. This cannery will utilize what would otherwise be wasted or sold at a loss and will make the difference between failure and success at the end of the year, provided it is well managed.

The more these smaller unions of the tillers of the soil are organized, the better it is for farmers and farming.—Spokesman Review.

The Fullerton Vegetable Union has shipped 8000 sacks of sweet potatoes this season.



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The Ornamental Garden

A JAR FOR CUT FLOWERS.

There are jars and vases of all styles and at all prices, but for the money expended nothing is handsomer for cut flowers than the glass fish globes that are sold for keeping gold fish, says a writer in Country Gentleman. A very excellent globe, nine inches in diameter and of clear glass, can be bought for 80 or 90 cents. A globe filled with water reflects the light from its surface as from a prism, while the stems and leaves seem magnified and much more brilliant when seen through the shining glass. The colors of the flowers are also reflected in beautiful tints from glass and water.

While a globe with thin glass is more liable to be broken, it will give more satisfaction in clearness and brilliancy, and there is after all but little liability of breakage. When filled with water a globe is much like a solid mass, and the even pressure of the water within protects the glass even when given quite a hard knock.

It is possible to use the fish globe for its original purpose and still have some green stuff growing in it. Two or three little gold fish (don't make the mistake of getting any above two and a half inches in length) will prove very attractive in a room, and with them can be had some pretty water plants with roots anchored in sand at the bottom of the globe. When these plants are well established they will supply sufficient oxygen to the water for the use of the fish, so that the contents of the globe need not be syphoned off more than once a week, if, indeed as often.

Whether the globe is used for flowers alone, or for plants and fish, provide a pretty little stand for it at one side of the room, and the room will have as charming a bit of furnishing as one could well wish for.

GLADIOLUS.

For early flowers, gladiolus may be planted now, but hold a quantity of bulbs for later planting, which will bloom in later summer. It is one of the most beautiful summer flowers and one easy to grow. The flowers are elegant in form and vary greatly in color. Some are white, some flesh, yellow, pink, red, dark red, etc., while others have these colors variegated. They are borne in spikes eight to ten or more inches in length, the single flowers arranged tastefully along the spike and opening gradually from the lowest to the highest. The spikes are fine for indoor decoration, keeping a long time with the stems placed in water, and if the two lower flowers are open when the spike is cut, the flowers will continue to open gradually until all are out. It may be said that only one thing is lacking—fragrance—to remind us that perfection in earthly things is by no means easily attained.

CANNAS.

This is a good time to transplant the canna roots. In fact, they may be broken apart and transplanted any season of the year, but planting now they will be in line for a fine bloom next summer.

Among our hot weather plants the canna stands unequaled, for the hotter the weather (provided it can be given a reasonable supply of moisture at the roots) the more gloriously does it flourish and the more magnificent its floral display.

Massed against a background of trees and shrubs (preferably evergreens) it makes a composition that leaves but little to be desired. It will grow and flourish with a minimum of attention. For glaring, gorgeous color its flower heads are as showy as those of any other plant grown, and for a profusion of bloom there is nothing to equal it. A single inflorescence, by actual count made last August, bore 150 flowers, and there were ten shoots to the one root. In cannas there is a wide choice, fully fifty varieties of marked distinction and a great many others which differ a little among themselves, says a writer in Garden Magazine. For instance, among the dark red flowered varieties are Beaute Poitevine and Furst Bismarck, which seem to be identical seen close at hand, but at a distance the former shows up two or three shades darker than the latter.

THE SUPPLY OF HICKORY.

On the request of the National Hickory Association, the Forest Service has taken up the commercial study of the hickory. There are nine species of hickory, the best known of which are the shellbark, the big shellbark, the pig-nut, the big-bud and the pecan. The shellbark and the pecan furnish edible nuts, while the big shellbark, the big-bud and the pig-nut produce the most valuable timber. Hickory wood is used largely for vehicles and for handles of tools.

Hickory is becoming scarce. The bulk of the remaining supply is in West Virginia, Tennessee, Arkansas, and Missouri. It is estimated that this will be exhausted in less than fifteen years. Fortunately, second growth hickory is as good as first growth, if not better. This is contrary to the usual rule of forest woods. The second growth gives an insufficient supply, being scattered, but it is worth cultivating, and this is one of the things the Forest Service investigations are to help.

For certain uses there is no known substitute for hickory, and it grows nowhere in the world but in this country. Foreign countries draw upon us largely for their carriage and handle stock.

PARCELS POST.

Inclose your money order herewith for which continue my subscription for your valuable publication. Keep the good work to the front, and don't forget to keep the parcels-post proposition before the eyes of the farmers, as it would be a blessing. I can well remember 28 years ago, the post wagons in Germany, loaded down with parcels, making their rounds. They were not one-horse wagons, but two-horse wagons, one man driving and another delivering; it was interesting to see them about Christmas time. People there don't have to go to the express office and call for their parcels, but they get them delivered to their houses, no matter where they live. If the farmer or rural dweller could only once see the convenience of it, he would soon make a demand for it. It is not only the convenience, but also the cheapness. Yours for Parcels Post, Chas. Grossholtz, Napa.

Conductor Neff announces a string of institutes along the line from Ventura to Los Angeles about the 1st of February.

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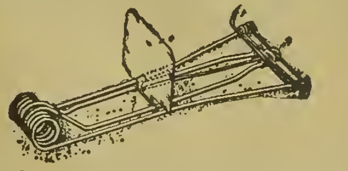

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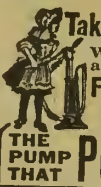

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Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Grafting Two-Year-Old Trees.

Please state what time of year is best to graft two-year-old peach and apricot trees. Also what kind of wax to use.—Peter Mathson, Fowler.

Use cleft grafts in the spring just when the color is showing on the buds. This will be just as the sap is beginning to flow and before the bark slips. Use wax made of four parts rosin, two parts beeswax and one part tallow. Mix thoroughly by gentle boiling and stirring. Cut a scion with three buds so that one bud will be on the side of the wedge-shaped part and on the outside when placed in the split of the stump. The object is to make the inside barks come even, and the bud being situated there makes an irregular line which brings several such points together. This makes the union almost sure.

Carry along hot wax and some old cloth. Wax the stump and all cracks and wrap with strips of cloth over which place another coating of hot wax. This will seal the whole thing over and keep the air out. If you do not get a good stand of grafts, bud the sprouts in the summer, just as though they were nursery trees—J. W. M.

Grafting Orange Trees.

Please tell me when is the proper time to graft lemon on Japanese orange?—C. W., Hawards.

It is not best to graft lemon on Japanese orange at any time. If you have a choice, and your soil is sandy and well drained, bud onto sweet orange seedling. If your land is inclined to be heavy and does not drain well, bud onto Florida sour stock. If, however, you have an old tree or two that you wish to convert into lemon, bud into the old bark in the spring. Before the proper time, the Cultivator will have an article on budding over old citrus trees.

Deciduous Fruits for Market.

Which are the best apples, pears, peaches, plums and grapes for this section, for the Los Angeles market? Have both sandy and heavy black soil. Yours truly, T. H. Stafford, Los Angeles.

White Winter Pearmain and Rhode Island Greening and Jonathan for late apples, and White and Red Astrachan and Gravenstein for early kinds. Skinner's seedling is a good early sort, coming in midsummer. Plant the early kinds on the sandy soil and the late ones on the heavy land.

Bartlett, Patrick Barry and Easter Buerre pears on sandy soil. Plant Elberta, Lovell, Yellow St. John, Foster and Solway on light soil. Plant Black Farrera, Black Morocco and Flaming Tokay on light soil and Black Cornichon on the heavy soil. If Muscat does well in your vicinity, plant that on the heavy land.

Tuscan Cling is a sure bearer in Southern California, which cannot be said of any other cling so far tried. Henrietta is a very reliable yellow cling, but it does not bear as heavily as Tuscan Cling. Phillips has a very small pit and consequently gives a thick slice when canned, though it is not as large as some other clings. There is less waste and, being thick, makes an attractive article when canned. Tuscan, Muir and Phillips Cling come in the order named and do not ripen so as to interfere at harvest time. Foster, Early Crawford and Elberta ripen in the order named. Foster is a better peach than Early Crawford. Elberta is a better market peach than either. Admiral Dewey has not been extensively planted in Southern California. It is a soft peach and will not ship as well as the above named peaches.—J. W. M.

Citrus Nursery.

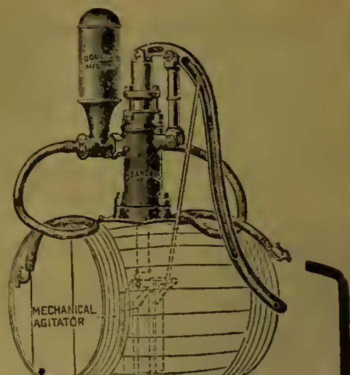
Will you please give directions, in your paper, how to start an orange nursery?—Bert Gregory, Sultana.

Plant the seed fresh from the fruit, late in May. Dig a trench about eighteen inches deep, and if the soil contains hard lumps or stones, sift them out of the soil that is to be put back into the trench.

Mix through the bottom foot of soil about one-tenth the bulk of well-rotted stable manure. This should be well mixed and no lumps should be used. Sift the manure through a coarse sieve before mixing with the soil. Make this as nearly level as can be conveniently done with a rake, settle with water, and when dry enough to rake up mealy, rake and level with a straight edge of a board. Settle again with water and fill in with about four inches of fine sandy loam. This will leave the surface of the seed bed about two inches lower than the surrounding land. This will prevent the irrigation water from running off, but provision should be made to allow for drainage during the rainy season. Irrigation water should not be used so that it will stand on the surface longer than a few minutes after applying it. It is better to apply it oftener.

Make furrows the depth of an orange seed and about four inches apart. Place the seeds in these as close as they will lie, and press with the foot so as to make them come in close contact with the soil. Cover with an inch of clean sand and keep it moist enough to prevent the sand from getting dry more than half an inch deep. This means that after the seeds have been planted in thoroughly moist soil they must be sprinkled lightly morning and evening till they begin to sprout, when once a day will be sufficient except in the case of a drying wind. A covering should be provided to keep at least half of the sunlight from shining on the plants when they are coming through the sand. Bright sun at this time is fatal. Lath placed an inch apart is the most convenient. If the plants are allowed to become accustomed to sunlight gradually after they are three inches high, they will become much stronger than when kept in partial shade all the time.

Leave the trees in the seed bed till the following May, when they should be transplanted into nursery rows, which should be four feet apart. Plant the trees a foot apart in the rows, and bud as soon as they are as large as a lead pencil. Do not cut back the seedling to the bud till the following spring, when they should be cut off about two inches above the bud. When the bud starts, rub off all the seedling buds so as to force the sap into the bud. The



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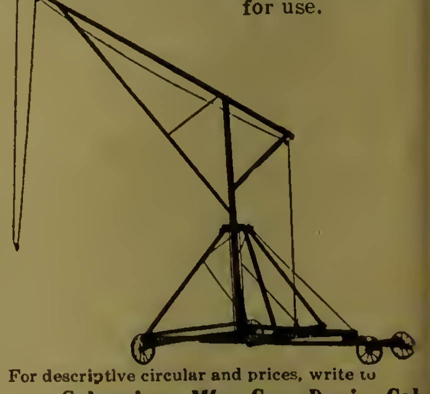

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Irrigation by artesian wells has developed wonderfully in the North Yakima, Washington, section, and farmers have found great increase in the possibilities in irrigated land.

buds should be forced to grow upright, and it is sometimes desirable to tie them to the stub that is left. When the buds have made a growth that enables them to be tied to a stake, use four-foot lath driven into the ground near the tree. Before doing this, stub the trees by cutting the part of the stalk that protrudes above the bud, removing them with a sloping cut. Paint the wound with some cheap mineral paint after the cut has been made a day.

If the land intended for orchard purposes can be put to profitable use, the trees may be left in the nursery till two years old, to considerable advantage. J. W. MILLS.

Seed Potatoes.

Is it advisable to plant potatoes, home grown, on the same soil? They were northern seed last spring and from them I have fall seed on hand. P. R. T., Ceres.

On general principles it is not good policy to plant potatoes, home grown, on the same soil. Yet there are very many cases where this can be done with entire success. Much depends upon the soil and the way it has been managed in the past as well as upon the condition of the potatoes to be used for seed. If the potatoes have been well ripened and seem healthy and sound and the soil is in fertile condition there would seem to be no objection to using such seed. Medium-sized tubers that fairly represent the type of the variety used, are better for planting than either very large or very small ones. And this is true, no matter where the seed is procured.

Q. A. L.

Barrenness.

I have an eighteen months old heifer, half Durham and half Jersey, well matured, healthy. Is a very quiet, gentle creature, but so far as I know, she does not want to breed. Is that natural at that age? Can you give me a remedy, etc.? C. L. A.

"Constitutional barrenness generally exists in heifers twinned with a bull calf." Improper food or want of exercise are all contributing cases. A fine heifer I owned never showed any sign of breeding until she was taken off the good alfalfa pasture and put on to a bare Bermuda pasture and let get thin, then was added to the herd with which a young bull ran. It is probably that this would bring this heifer around all right. Let her rustle for her food for five or six weeks and then see if she does not come in all right. M. E. S.

Pruning Oranges.

Please inform me where I can procure instructions for pruning citrus fruit trees.—C. L. C.

The best place always is in the orchard with a practical pruner. Other than that, and your own judgment, books and papers only can help you. Mr. Mills has, at times, had such articles in the Cultivator. "The Citrus in California" published by the State Board of Horticulture some seven or eight years ago has some suggestions, but pruning ideas have changed somewhat since then. "Citrus Fruits and Their Culture" by Hume of Florida has some good suggestions.

In a word of simple suggestions, head the tree low, clean out all dead twigs inside of tree. Remove cross limbs, subdue suckers or water sprouts and keep the tree balanced.

Peanuts.

Can you inform me through your paper as to the culture and care of peanuts? Also will they mature in sandy loam in Pajaro Valley? Or have they ever been tried here?—A Reader.

Plant peanuts in the spring about the time you would plant string beans. Plant in rows from 2½ to 3 feet wide and 1½ to 2 feet apart in the row. If the seed is good, one nut to the hill is sufficient—first breaking the shell in the middle and handle carefully. It will not be necessary to take the seed out of the broken shell. Plant about as deep as you would plant peas.

Keep the ground mellow and loose by the best cultivation, and when the plant is in full bloom cover the blossoms lightly with about an inch of soil. I have grown good crops without covering, but was careful to have the soil under the branches loose and mellow, which would allow the nuts to form under the soil. When they are dug in the fall, handle with forks so that the soil can be shaken out, then put up in small cocks and cure as you would hay. Choose the lightest and most sandy loam you can. I do not know whether they have been tried in your locality or not, but some inquiry among your neighbors might bring out that fact. I think there is no question about them maturing, if properly grown. If you should not secure the best seed, use more to the hill and they can be thinned out if too many grow.—Q. A. L.

Fruit Trees Set Square.

How far apart should fruit trees be set in order to have the trees in nice, straight rows, each and every way? —J. W. J., Curtis, Oklahoma.

If set square, that is, equal distances apart each way it is immaterial what the distance apart is, they will "lineup" nearly "every way." But if the trees, or vines, are set, say 10 feet apart in the row and rows 16 feet apart, then they will line only at right angles.

Planting From Bearing Vines.

Please tell me through the Cultivator if it pays to plant strawberries that bore fruit last summer. It is runners that were left a year ago. They did not set runners this season. —A Subscriber.

We would not plant such stock under any circumstances. We never set out plants grown from beds that have borne, much less plants that have themselves borne fruit. Strawberry growing under any conditions requires so much labor and attention that it pays to have only the very best stock that can be procured—Q. A. L.

Strawbery Tree.

I send you by today's mail a package containing sprays of two shrubs, which I wish you would tell me what they are through the columns of the Cultivator, and greatly oblige.—G. A. S., Porterville.

The one with strawberry-like fruit is Arbutus unedo, L., or the strawberry tree. This is said to be a most beautiful tree at this time of the year, with the red fruit and white flowers. It is native of the South of Ireland and the Mediterranean.

The other plant is from China, and the name will be given as soon as determined by Dr. Davidson, who identifies the above.

Feed Cutter.

Have read with a great deal of interest your article on Alfalfa in the Silo. Please kindly advise me what make of cutter and blower you are using and address of manufacturer? Would you recommend a 14-inch cutter for a small silo 12 to 14 feet in diameter, 28 feet high, silo? It is my intention to erect a silo. What makes of cutter have not proved satisfactory? A. H.

Will say that at present I am using the old outfit with an elevator and will do so until it is necessary to replace it with new machinery. In buying a cutter with blower the agent will guarantee the machinery and put it up on trial to do the work or no pay. The names of the cutters that failed I prefer not to give you, as "knocking" is a mean business. The Experiment Station at Reno, Nevada, Prof. True writes, is having perfectly satisfactory work with the Smalley outfit of cutter and blower on alfalfa.

Early Rose Seed.

Where can I buy Early Rose seed potatoes? A READER, Dinuba.

The seed men advertising in the Cultivator can supply you.

Thomas Powder.

What is the action of Thomas Phosphate Powder on orange orchard and fruit?—W. T. A., Pomona.

The action of Thomas Phosphate on orange trees and the fruit has not been fully determined. There have been cases where the effect was bad on sandy soil when applied without any green-manuring crop.

Mr. F. L. Palmer of North Pomona had experience of this nature. Thomas Powder has been used quite extensively in Riverside with green-manuring crops with apparently good results. It is a cheap form and in moist situations it has given good results.

NEW QUARTERS.

The German-American Savings Bank is sending out a little mail card folder with a view of the city of Los Angeles showing the location of the bank and many of the prominent buildings of the city. It is well worth writing for, as it is an excellent panorama half-tone view of the city.

In addition there are some convincing figures regarding the strength of this great institution. For instance, it has paid-up capital of $600,000, surplus and profits of $300,000, and with resources totaling ten millions. This institution now has over 20,000 depositors.

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A. J. Paxton, Orange, Cal.

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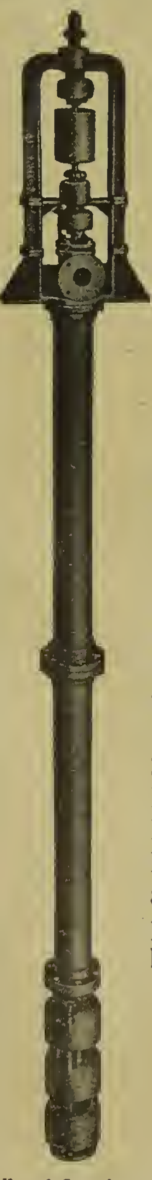

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IT PAYS.

It pays to wear a smiling face,
  And laugh our troubles down,
For all our little trials wait
  Our laughter or our frown.
Beneath the magic of a smile,
  Our doubts will fade away:
As melts the snow in early spring
  Beneath the sunny ray.

It pays to help a worthy cause,
  By making it our own,
It gives the current of our lives
  A purer, nobler tone;
It pays to comfort heavy hearts
  Depressed with dull despair;
And leave in sorrow-darkened lives
  One gleam of brightness, there.

It pays to give a helping hand
  To eager, earnest youth;
To note with all their waywardness
  Their courage and their truth;
To strive with sympathy and love,
  Their confidence to win;
It pays to open wide the heart,
  And let the sunshine in.

A friendly word, a pleasant smile—
  The cost is small, indeed,
To him who gives—but priceless is
  To him who stands in need.
The human heart responds to love
  As flowers to sun and dew;
It pays to seek the needy one,
  It pays—both him and you.

A STROKE IN MECHANICAL ENGINEERING.

JOSEPH BANNON and Thomas Elrod were friends. Elrod was an educated man who never secured more than a competence. Bannon was a selfmade man, a manufacturer, and got rich. Elrod's son Henry, as a boy, had a mechanical shop in his father's cellar and showed considerable aptitude for mathematics and mechanics. When his father died, leaving him nothing, Henry persuaded Mr. Bannon to give him a subordinate position in his works. Bannon, who considered both the boy and his father impracticable, took Henry into his service under protest, remarking that the boy would never get beyond the bottom round of the ladder. Henry did well enough till his employer caught him making love to his daughter, Mary Bannon, whereupon Mr. Bannon discharged him.

The morning Henry stepped out of the office building at the factory to hunt another job he saw a group of men, foremost among whom was Bannon, looking up at the great smokestack. Joining them and inquiring what was the matter, he was informed that the stack was leaning to one side. Indeed, an engineer had just determined that at the top it was forty-five inches out of plumb.

Here was a serious matter. From all appearances a scaffolding must be erected about the stack, the stack must be taken down and another built in its place. Indeed, it would be fortunate if the chimney did not fall on the factory buildings beneath it, destroying them, with much valuable machinery. Bannon was very much troubled. His engineer told him there was no way by which the stack could be straightened, and before leaving the spot he gave orders for the erection of the scaffolding and the subsequent taking down of the chimney.

Elrod went away, trying to concentrate his mind upon getting another position. But the chimney, or rather, some method of straightening it, had got into his head, and he could not get it out. He thought all day and toward evening took pencil and paper and began to figure. At midnight he went to bed, but could not sleep, so getting up he went over his figures to see that they were correct.

The next morning, after having slept only a couple of hours, he went to the Bannon works. Carpenters were just beginning to erect the scaffolding around the stack. Henry went into Mr. Bannon's office. Bannon, supposing that he had come to protest against his dismissal, frowned.

"Mr. Bannon," he said, "I don't think it necessary to take down the stack. I have a plan for straightening it."

Bannon looked at him as a general would look at a corporal who was about to inform him how to save his army.

"If you wish it, you are welcome to it," Henry added.

Still there was no word from Bannon. He was considering whether the young man had lost his senses.

"The base of the stack," continued Henry, who gathered confidence the moment he entered upon his plan, "being square, simplifies the problem. The stack leans to the east forty-five inches. I would remove ten and a half inches of brickwork at the base on the other three sides. I would insert in the spaces left blocks of wood of equal size, thus resting the three sides of the structure on the blocks. Between the blocks I would build brick piers six inches high, leaving a space four and a half inches between the tops of the piers and the bottom of the undermined brickwork. Now, if I can reduce the height of the blocks by four and a half inches the gap will be reduced by this amount and the stack will veer to the west forty-five inches at the arc described at the top where the radius (the chimney) is 122 feet."

Bannon's eyes were fixed on the speaker during this statement with growing interest. He had forgotten the lesser in the more important matter. He continued to stare for a few moments after Henry had finished, then asked:

"With the enormous weight (nearly 400 tons) on the blocks, you can't cut them down and get out the surplus."

"I have thought of that," Henry replied. "I will burn them out."

It seemed as if 400 tons had been taken off Bannon's mind.

"Where are your figures?" he asked.

Henry produced them and waited while Bannon went over them again and again.

"Come," said the latter when he was satisfied; "you shall have charge of the work."

After the successful removal of the bricks and the insertion of the blocks Henry Elrod marked off the space to be burned out, set the blocks on fire and kept them burning evenly. If one burned faster than the others it was immediately checked till the others caught up with it. Thus they were kept burning uniformly while the stack slowly righted. Small fissures opened on the opposite side near the base, but steel wedges were driven into them, which maintained a solid mass. When evening came the work was finished and the stack was as good as when it was first built.

Henry Elrod, when at breakfast the next morning, received a note from s late employer containing a check · $1000 and offering him a position superintendent of building and ıchinery at a handsome salary. ıother note, written in a more delite hand, came with the first, conatulating the young engineer on s triumph. Henry's wife now owns e factory and Henry is its manar.—Field and Farm.

RECIPES.

vo Cheese Recipes.

Cheese on toast is a good dish for e informal little luncheon. To ıke it, use a cup of grated cheese, ʋ tablespoons of butter, eight taespoons of milk, two teaspoons of ur, a pinch of salt. Rub the flour, lt and butter together, add the lk and bring to the boil, add the eese, boil up again. Pour over ısted bread which has been slight- moistened and buttered.

gs With Cheese.

Eggs are improved served with eese for a change. Add two tableoons of butter to two-thirds of a of milk and heat. Drop the eggs o muffin rings and add the heated k and butter. Sprinkle with salt, oper and grated cheese. Brown in oven and serve.

eapple Tapioca Pudding.

One cup of tapioca, washed or ked. Cook till clear in water, to ich has been added a teaspoon of . Partly cool before adding the er ingredients. Cut up fine two s of pineapple and let it stand an ır with half a cup of sugar stirred it. Put it into the tapioca. Beat ks of two eggs with half a cup of ar and add to the pudding. Bake een minutes, or a little longer, in tered pudding dish.

eat two whites of eggs till very f, then beat in a tablespoon of eapple syrup, reserved for that pose, and two tablespoons of ar. Put over the pudding and wn a moment in oven. This is served cold.

n Meal Gems.

ft together one pint of meal, the e of flour, and two teaspoons of ing powder; make into a stiff bat- with a pint of sweet milk and egg. Bake in gem pans in a k oven.

HOMELY HINTS.

at Turpentine Will Do.

ırpentine and soap will remove spots, wheel grease and tar ns from linen or muslin.

mixture of turpentine and lin- oil will restore furniture disred with water.

oisten stove blacking with turpentine and it will not burn off as quickly.

To alleviate spasmodic croup spread lard on a cloth and sprinkle with turpentine, or mix the lard and turpentine, spread and apply to the chest.

For a cough caused by a tickling in the throat, take a little turpentine dropped on loaf sugar.

Loaf sugar and turpentine is an excellent worm remedy for children.

To cure corns, bathe persistently with turpentine. They will be less painfull and after a time will disappear.

Turpentine applied freely will alleviate the discomfort caused by bunions.

For "crick" in the back, rub with turpentine and heat it in. Some claim that it may scatter the pain, possiblly to a vital organ, but the writer has found turpentine a sovereign remedy for years.

For gapes in chickens, swab the throat with a feather dipped in turpentine.

For "foul-in-the-foot," apply turpentine with a brush or swab and keep the feet dry.

If flies have worked in sores or wounds on animals, cleanse with turpentine.

Moths will not work in a closed box or trunk where there is kept an uucorked bottle of turpentine, or if the contents are occasionally sprinkled. Turpentine is not effective in the case of "buffalo bugs;" for these pests use gasoline or benzine.

A little turpentine applied with a woolen cloth will clean gilt ornaments and gilt picture frames.

Rub tan shoes with a cloth moistened with turpentine.

After lifting a carpet add two tablespoons of turpentine to a pailful of water and mop the floor.

After laying a carpet use a mop of clean cloth wrung dry from warm water to which has been added two tablespoons of turpentine. Wipe the carpet all around the roof for six or more inches from the baseboard. This will serve to check moths.

Apply turpentine on carpets under heavy furniture not on castors or that is not easily moved.

To brighten a faded carpet sweep with a broom dipped in turpentine water, a tablespoon to half a pail of water. Shake the broom well to remove all surplus moisture. The effect is no better than with ammonia and water, but it is more lasting.

Clean oilcloth with a woolen cloth moistened with turpentine. This, as with a carpet, is preferable to ammonia only because it will not need to be so often repeated.

Thin the paint or varnish that by standing has become thick with turpentine; keep all small paint brushes when not in use in a covered paint pail in turpentine. If kept covered it will not evaporate. Will keep the brushes as pliable as gasoline.

For furniture polish, take one-third linseed oil and two-thrids turpentine; shake will, apply with a very thin cloth, and wipe with the same.

For marred furniture, take half an ounce each of turpentine and linseed oil, an ounce of coal tar and shellac. Keep in a wide-mouthed bottle tightly corked. Shake before applying with a sponge.

Ivory knife handles that have become yellow or discolored, by rubbing two or three times at intervals with turpentine, will be greatly improved.

OWED MONEY A LONG TIME.

A Richmond lawyer was consulted not long since by a colored man who complained that another negro owed him three dollars, a debt he absolutely refused to discharge. The creditor had dunned and dunned him, but all to no purpose. He had finally come to the lawyer in the hope that he could give him some good advice.

"What reason does he give for refusing to pay you?" asked the legal man.

"Why, boss," said the darkey, "he said he done owed me dat money for so long dat de interest had et it all up, an' he didn't owe me a cent."—Harper's Weekly.

DEFINITIONS OF HOME.

Home is the place everybody is glad to get back to, no matter where they have been—if their home is a happy one.

Home is the place everybody is glad to get out of; that is, if their home is an unhappy one.

Home is a place of light, inspiration, grace.

It is the holy of holies, in which a good woman ministers its religion, its sacraments and sacrifices.

It is the sanctuary in which she is the divinity, the law-giver, the confessor.

Home is an oasis in the arid plains of modern society.

"We are always in these days endeavoring to separate intellect and manual labor; we want one man to be always thinking and another to be always working, and we call one a gentleman and the other an operative; whereas the workman ought often to be thinking, and the thinker often to be working, and both should be gentlemen in the best sense."—John Ruskin.

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Caustic Balsam
IT HAS NO EQUAL
For the Human Body —It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons Exterior Cancers, Boils Corns and Bunions CAUSTIC BALSAM has no equal as a Liniment.
We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.
A Perfectly Safe and Reliable Remedy for Sore Throat Chest Cold Backache Neuralgia Sprains Strains Lumbago Diphtheria Sore Lungs Rheumatism and all Stiff Joints
REMOVES THE SORENESS--STRENGTHENS MUSCLES
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Agents make $10 and more daily, greatest invention on earth, will grow plants two weeks ahead of time. Sells at sight, for $1.50. Send $1.00 for sample, agents price. Explanations follow, money refunded if you cannot make a success. Reference Chapman National Bank. United States Propagator Co. Dept. F. Portland, Me.

Orange packing houses are beginning to work again after the Christmas holidays.

LINERS

Liner Advertising

Advertisements in Liner Column 1½ cents per word. Eight words to a line. No advertisement taken forless than 25 cents.

TREES.

FOR SALE—ABOUT 50,000 BLUE GUMS, fine plants ready any time after January 15th. Price low if ordered quick. H. L. BAUER & SONS, 737 S. Spring St., Los Angeles. Cal.

20,000 SEEDLING AND GRAFTED WALnuts, fruit, ornamental trees, palms, roses. A thrifty, well grown stock. A. R. MARSHALL, nurseryman, sales yard cor. Third and Main streets, Santa Ana, Cal.

WALNUT TREES—5000 VERY FINE, LARGE seedlings. Seed selected from original Placentia Perfection grafted trees. Free from disease. Lowest prices. G. W. SHERWOOD, Fullerton, Cal.

BUDDED ORANGE TREES, VALENCIA and navel 2-year-old buds, clean and thrifty stock. Address F. E. CHAPMAN, R. F. D., box 34, Pasadena, Cal.

FOR SALE—GOOD SANTA BARBARA softshell walnut trees (seedling,) also standard deciduous fruit trees and grape vines. The AUBURN NURSERIES, East Auburn, Cal.

EUCALYPTUS TREES—ORDER NOW AND have your choice of any variety at any price, of any size. A. L. HURTT, San Bernardino, Cal.

EGGS FOR HATCHING.

EGGS FROM MY PRIZE WINNING BARred Rocks; won all firsts, all seconds but one, and all specials on Barred Rocks at L. A. C. P. A. Show, 1907. Eggs from best pens, $3 per 15; $12.50 per 100. Stock for sale. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

NINETEEN HUNDRED AND EIGHT Poultry business will be more profitable than ever. Order your eggs for hatching now. We have thoroughbred White Leghorns and Wyandottes. Also a few beautiful White Holland Turkeys for sale. SAN GABRIEL POULTRY FARM, San Gabriel, Cal.

WHITE LEGHORNS (HOWARD STRAIN), W. Wyandottes (Hubbard strain) Eggs; Leghorns, $5 per $100; Wyandottes, $7. Baby chicks FROM BRED TO LAY STOCK SHIPPED anywhere. Ranch 2 blocks from car. F. T. McLAUGHLIN, Gardena.

ROSE COMB R. I. RED EGGS PER SITting of 15, $1.00 and $2.50. Address, D. WRIGHT, Willow St., San Jose, R. F. D. Box 162.

BERRY PLANTS.

FOR SALE—100,000 PRIDE OF MICHIGAN and 100,000 Brandywine strawberry plants. Famous Kellogg strain at $2.25 per 1000 if ordered soon. R. J. HUNTER, Oak View Berry Farm, Gridley, Cal.

FOR SALE—MAMMOTH BLACKBERRY, 100, $3; 1000, $25; Himalaya Giant blackberry, 100, $4.50; 1000, $35. Express prepaid to California points, ADELBERT COOLEY, Laton, Cal.

W. J. ROOKS OF AZUSA, CALIFORNIA, has for sale a special fine line of Brandywine strawberry plants, $2.50 per 1000.

WANTED—ONE-YEAR OLD LOGANBERry plants. Address P. O. BOX 2697, Fresno, California.

STRAWBERRIES, 91 SELECTED VARIEties, list and prices on application. TRIBBLE BROS., Elk Grove, Cal.

FOR SALE—THRIFTY, YOUNG WALNUT trees. Grown from selected softshell seed. $25 per hundred on car at depot. A. M. HOEL, Goleta, Cal.

WANTED—PRUNES PHENOMENAL AND Logan plants. Address, LOCK BOX 64, Gridley, Cal.

POULTRY

WHITE WYANDOTTES—"CREAM OF THE Coast" strain—the 200-per-year kind. Barred Plymouth Rocks, my "Blue Diamond" strain, are great winter layers of big, brown eggs. No incubator lots furnished. Eggs per 13, after Jan. 1, carefully packed, $1.50. Address WILLIAM C. PARKER, 111 Pacific avenue, Santa Cruz, Cal.

BLUE ANDALUSIANS. WON ALL PRIZES at Los Angeles County Show, 1907. A few good trios and pens; also good breeding cockerels; eggs for hatching, $2 and $2.50; no better stock anywhere. MRS. T. R. GRIFFITH, 3111 Walton ave., Los Angeles, Cal.

FOR SALE—WHITE LANGSHANS, WHITE Indian Games and Black Wyandottes from 1st prize pens. Stock and eggs for sale. Mountain View Poultry Ranch, corner Budlong and Slauson Ave. BOX 68, Route 9, Los Angeles, Cal.

S. C. WHITE LEGHORNS—I HAVE 35 hens and 2 cocks 19 months old selected breeders hatched from Howard's best pens. I will sell the lot for $70 or 17 hens and 1 cock for $35. CLYDE J. MOSS, Corona, Cal.

FOR SALE—INDIAN RUNNER DUCK eggs; fine stock; over eighty per cent fertile; 75c per dozen; incubator lots $4.00 per hundred. J. W. LYON, R. F. D. No. 1, Gardena, Cal.

FOR SALE—PRIZE PARTRIDGE WYANdotte cockerels; all prize winners; from $10 to $25. C. L. HOGUE, San Gabriel, Cal.

MACHINERY.

FOR SALE CHEAP—ONE JUBILEE INcubator and one Jubilee brooder. Used one season. HEMPSTEAD & CURTIS, Charter Oak, Cal.

FOR SALE—25-H. P. FAIRBANKS-MORSE gasoline engine in perfect running order at a snap. 117 BRUNO ST., Los Angeles.

FOR SALE—CHEAP FOR CASH—6-H. P. Fairbanks-Morse gasoline engine in fine shape. 913 N. MAIN ST., Los Angeles, Cal.

FOR SALE—15-H. P. OTTO DISTILLATE engine almost new at a bargain. N. W. cor MAIN AND BRUNO STS., Los Angeles, Cal.

GRAPE CUTTINGS.

FOR SALE—20,000 CORNICHON GRAPE cuttings; strong wood 18 inches long, at $5.00 per 1000; 500 fine plants ,German Box, out of 5-inch pots, $20.00 per 100; 1000 Phoenix Canariensis 4 feet and over, established, $1.00 each; 1000 Washingtonia Robusta and Phillippera 3 to 4 feet (balled or established.) H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

CHOICE GRAPE CUTTINGS AND ROOTS—Cuttings, $3.00 per thousand; roots, $3.00 per hundred. Cornichon, Red, Emperor, Thompson Seedless, Flame Tokay, Rose Peru, Muscat, Mission. J. C. Smith, Burbank, Cal.

FOR SALE—A LARGE VARIETY OF THE best table grape cuttings. Also Mammoth Black and Logan berry plants. For full particulars and prices per thousand, address E. DONDANVILLE, San Gabriel, Cal.

MISCELLANEOUS.

DELMONICO'S CHEF SAYS: "THE ANchor egg separator works perfectly; no well regulated hotel or household can afford to be without it." Send ten cents, or ten names of persons keeping poultry, and we will send one postpaid. WEST COAST MILL, 818 San Fernando St., Los Angeles, Cal.

EXTRA HIGHGRADE CHILIAN WATERmelon seed. White or red; sixty cents per pound. Fancy pineapple cantaloupe seed, 80 cents per pound by express. Mail fifteen cents additional—no culls. S. FAIRBURN, Burbank, Cal.

ARTICHOKES.

FOR SALE—JERUSALUM ARTICHOKES—The great winter hog feed. Address FANCHER CREEK NURSERIES, Fresno, California.

FARM LANDS FOR SALE.

FOR SALE—1 to 10-acre tracts on car line between Riverside and new cement works. Good for chicken ranches, alfalfa or gardening. Will sell on easy terms. Plenty of water on each tract. N. R. BELL, Riverside, Cal.

FOR SALE—40 ACRES, LEVEL; FINE for chickens, vegetables, berries, etc., $30 per acre; a bargain. WM. MANTZ, Santa Maria, Cal.

PHEASANTS.

"PHEASANT FARMING," ILLUSTRATED, 25c. Tells how to raise pheasants. Birds and eggs for sale. SIMPSON'S PHEASANT FARM, Box C247, Corvallis, Oregon.

GRAPE CUTTINGS WANTED.

WANTED—CUTTINGS OF THE FOLLOWing for grafting purposes: Rupestris St. George, Riparia x Rupestris 3306, Riparia x Rupestris 3309, Riparia x Rupestris 106-8 and Mourvedre x Rupestris 1202. Address FANCHER CREEK NURSERIES, Fresno, California.

POTATOES.

WANTED—SEED POTATOES—EARLY VArieties. State price. F. O. B. your Station. Address BOX 3, El Centro, Cal.

GERMAN AMERICAN SAVINGS BANK
4%

Be economical.
True economy avoids all waste and extravagance, and applies money to the best advantage.
A Savings Account is an aid to economy.
The complete facilities of this Bank are at your service.
Four per cent interest on Deposits.

GERMAN AMERICAN
SAVINGS BANK
223 SOUTH SPRING STREET
BRANCH: MAIN AND FIRST STS.

The large number of signatures secured to the agreement of the hop growers of the northern part of the State, also of the hop growers of Oregon and Washington, is causing a much better feeling amongst hop men.

Walla Walla, Washington, warehouses are being emptied of wheat, as cars can be secured now, and the desire on the part of the warehouse men is to get rid of the goods before the assessment season.

A widow's mite is spelled m-i-g-h-t when she makes up her mind to marry again.

The Produce Markets

Los Angeles Markets

LOS ANGELES, Jan. 15, 1908.

Butter.

Butter declined five cents a roll this week. The tone of the market is strong and San Francisco's advance is tending to stiffen the market here still more. It is even predicted that it will return to its old price of 75.

Creamery ex per roll	70
Firsts	55
Seconds	60
Dairy	45
Cooking	45@47
Eastern	55@60
"Butterine"	15@20

Cheese.

Cal Young America per lb	20½
Hand	20½
California Anchor	19
Northern fresh	17¼@17½
Eastern singles	19
Imported Swiss	32
Tulare flats	18½
Domestic Swiss	21@22
Oregon	18

Eggs and Poultry.

Eggs have advanced since last quotations, caused doubtless by the cooler stormy weather which has shortened the supply and may possibly be increased still more. The market now is very firm.

Eggs local candled	28@29
Eggs case count	27
Fresh Eastern	20
Eastern storage	20@21
Hens per lb	14
Young roosters per lb	15
Fryers	18
Broilers per lb	21
Old roosters	8
Turkeys	15
Geese	13
Ducks	16
Squabs	1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds	6
Prime steers	4½
Heifers	4
Calves per lb	4½@5
Sheep ewes per head	4.75
Lambs per head	3.75@4.25
Wethers	5.50

Potatoes.

Highlands	1.15@1.35
Early Rose	1.75@1.85
Salinas	1.75@1.85
Sweet potatoes per sack	2.85@3.00
Oregons	2.00
Idahos	1.25

Onions.

Yellow Danvers	2.85
Australian Browns	2.90@3.00
Oregons	3.00
Garlic	10

Vegetables.

Artichokes per doz	1.15
Beets per doz	25@35
Bell peppers per lb	7
Beans limas per lb	6@8
Beans green	7@8
Brussels sprouts per lb	5@6
Cabbage sack	30
Celery per crate	1.50
Chili peppers green lb	2@2½
Cucumbers per box	50@1.00
Cauliflower	40@60
Carrots per doz	30@40
Eggplant per lb	5@6
Green onions doz bunches	10@30
Hubbard squash per lb	1@1½
Lettuce per crate	75
Pie Pumpkins	1½
Peas sugar per lb	2½@3
Parsley	30
Parsnips	35@40
Rhubarb per box	1.00
Radishes per doz	15@20
Salsify	30
Spinach per doz	10@25
Squash crate	1.00
Turnips doz bunches	40
Tomatoes per box	1.75@2.00

Citrus Fruits.

Navels fy	2.00@2.25
Navels ch	1.50@1.75
Culls	75@90
Grapefruit seedless	2.50@3.00
Grapefruit seedlings	1.75@2.00
Lemons fancy	1.25@1.50
Lemons choice	1.00@1.25

Fresh Fruits.

Bellefluers	1.90@2.00
Baldwins	1.25@1.50
Pippins 4-tier	1.50
Gravenstein	1.50
Alexandria	1.00@1.50
Cooking	50@1.00
W W Pearmains	1.75
Colorado Jonathans	3.50
Casaba per crate	2.00@2.50
Guavas	6@8
Pears	1.25
Winter Nellis per lb	6
Pomegranates per lb	
Persimmons	5@1
Quinces	1.2
Raspberries	10@1
Strawberries	6@1

Dried Fruits.

Apricots	17@2
Evap apples fy per lb	10½@11
Figs loose	4@
Peaches	12@1
Pears	12½@1
Nectarines	13@1
Prunes	3½@5
Plums	11½@1

Beans Dried.

Limas per ctl	5.3
Pink No 1	3.6
Lady Washington	3.75@3.9
Small White	3.75@3.8
Black eyes	5.0
Garvanzas	5.25@5.7
Lentils	12@12

Nuts.

Almonds per lb	18@2
Peanuts Virgina	8½@
Peanuts California	7@8
Walnuts No. 1 SS	15@1

Honey.

Extracted Water White	6@
Comb W W	11@13

Hay.

Barley No 1	14.00@18.0
Barley No 2	13.00@14.0
Alfalfa northern per ton	15.00@17.0
Alfalfa new local	15.00@17.0
Plain Oat No 1 new	16.00@18.0
Wheat No 1	18.0
Wheat No 2	14.0

Grain.

Wholesale selling price f. o. b., Lo Angeles.

Wheat new per ctl	1.8
Wheat in 100-lb. sacks	1.9
Barley	1.5
Corn Eastern sacked	1.8
White oats	1.9

Feed Stuff.

Selling price F. O. B. Los Angele as follows:

Cracked corn	1.8
Shorts	
Bran	
Oil cake meal	2.
Feed meal	1.
Rolled barley	1.

SONOMA COUNTY GRANGE.

The meetings scheduled by the Sonoma county grange are as follows: At Santa Rosa, third Wednesda in January, April, July, October Green Valley, Dec. 21; Healdsbur March, 21; Geyserville, May, 16; Sebastopol, June, 20; Two Rock, Au 20; Glen Ellen, Sept. 19.

IT'S PENNY WISE.

Policy to set out a good tree, cos ing good money and then let the su burn the bark or the rabbits gna it when for $1.00 an acre you ca get Yucca Tree Protectors that a practically indestructible. Write f free sample of the wrap. Yuc Manufacturing Company, 1380 Willo Street, Los Angeles.

Auction

60 MILK COWS
On the L. W. Campbell Ranch, 1 miles Northwest of
ARTESIA.
Take Santa Ana Electric Car to Dol Ranch one-fourth mile west.
TUESDAY, JAN. 21ST
AT 10 A. M.

60 head First-Class Milk Cows, Jerse Holsteins and Durhams, fresh and co ng fresh, large milkers, all young and good condition; in fact, a first-class h of dairy and family cows. Purchas looking for first-class dairy cows sho not miss this sale.

1 Thoroughbred Holstein Bull, 1 Jer Bull, 3 Yearling Heifers, 1 Two-year- Heifer, 1 Team Work Mares, wei about 1100 lbs. each.

IMPLEMENTS

2 Farm Wagons, Mower, Rake, Pl Milk Cans, Milk House, Water Troug Aerator, Household Goods, 2 Incubat Stanchions for 50 Cows, etc., etc.

On account of the ranch being sol am quitting the dairy business and cl ing out my entire herd and every ani will positively be sold to the highest b der without limit or reserve.

TERMS: 6 months time will be gi with note and approved security and per cent interest. 5 per cent discount cash.

FREE LUNCH AT NOON.
Geo. S. Burrows, Owner.
RHOADES & RHOADES, Auc
Office 830-832 S. Main St., Los Ang

an Francisco Markets

3an Francisco, Jan. 14th., 1908.

Butter.

Butter has refused to down and dur- g the week has recovered some of former loss. Extras have advanced cents a pound during the week. The lder weather is given credit for the crease.

The current prices on dairy pro- icts in San Francisco are always om 2 to 3 cents higher than the rates ven in the daily official list of the holesale Dairy Produce Exchange. ie retail dealers in this city invari- ly pay an additional 2 cents per und on butter and per dozen of gs, and occasionally it is 3 cents. cheese the increase is 1 cent per und. By making these additions the Dairy Exchange prices the pro- icer in the country can always de- rmine the actual prices ruling in is city. The quotations as prepared the San Francisco Wholesale Dairy xchange yesterday were as follows:

ilifornia extras per lb	34
ilifornia firsts	24
ilifornia seconds	22
istern extras	24½
orage Cal ex	24½

Cheese.

ilifornia young American fy	15
ilifornia flats fy	14
istern fy	17½
regon fancy	15

Eggs and Poultry.

Eggs have advanced about 3 cents ring the week; that is, fresh ranch gs. Firsts and storage are not rong.

esh ranch eggs	35½
ggs firsts per doz	29
gs seconds per doz	24
orage Cal extra	25
istern selected	21
istern firsts	19
ens per doz	4.50@6.00
ens extra	6.00@7.00
ung roosters	6.00@7.00
d roosters	4.00@4.50
yers per doz	5.00@6.00
oilers per doz	4.00@5.00
ese per pair	2.00@2.50
icks young	4.00@5.00
irkeys per lb	18
geons	1.00@1.25

Live Stock.

eers No 1	8½@9
second quality	7½@8
. 1 cows and heifers	6½@7
gs 200 to 300 lbs	5@5½
gs 200 to 300 lbs	5@5½
lves per lb	4½@5
imbs	5@5½
ethers No 1	5@5½
wes No 1	4½@5

Potatoes.

ver whites	50@1.00
regon Burbanks	90@1.25
irly Rose	1,25@1.35
ver Reds	1.35@1.40
linas Burbanks	1.10@1.30
veets per crate	2.20@2.50

Vegetables.

lery per crate	75@1.00
icumbers per doz	1.00@1.25
ill peppers per lb	5
ll peppers per lb	5@6
ans Limas	12@15
g plant per lb	12½
een peas per lb	4@5
uash per box	50@1.25
arrowfat squash per sack	60@75
ushrooms	15@40
ubbard squash per sack	60@80
iubarb per box	1.00@1.25
matoes local	1.00@2.00
ring beans	12½@15
irlic	4@5

Onions.

ilons br Australian per ctl	75@2.00

Citrus Fruits.

ivels fy	2.50
ivels ch	1.25@2.25
apefruit seedless	2.50@2.75
mons	1.50@3.00
mes	1.50@3.00

Fresh Fruits.

wtons	1.50@1.75
ltzenberg	2.25@2.50
pples small stock	40@75
ars winter Nellis	2.00@2.50
rsimmons	75@1.25
megranates per box	1.00@2.50
iinces per box	1.00@1.25

Dried Fruits.

pples (evap.)	8@9½
oricots per lb new	18@21
gs white	3½@4
ectarines	12½@15
ums pitted	12@15
unes 4 sizes	4@5½
aches	9@12
ars	9@13½
unes 4 size bag basis	4@4½

Beans Dried.

mas	5.15@5.25
nk	3.15@3.25
iall white	3.45@3.50
Large white	3.00@3.10
Lady Washington	3.30@3.45
Black Eyes	3.35@4.20
Red Kidneys	3.25@3.50
Garvanzas	4.00@4.25
Bayo	3.15@3.25

Hops.

Hops new future delivery per lb	4@8
Hops old fancy	2@3

Nuts.

Nonpareil	13½@14
Ne Plus Ultra	12½
Peanuts California	6½@7½
Walnuts	14@17

Honey.

Clear white comb	16@17
Amber	12@15
Extracted	8½
Beeswax No. 1 per lb	26@27

Hay.

Somers & Co. say:

Arrivals of hay for the week ending today, show a total of 3290 tons in comparison with 4040 tons for the week preceding. This lessening in shipments was very opportune for the market was becoming very badly crowded and prices were again showing a decline. With the turn of the year there has been a general improvement in business throughout the city, and it is expected that the hay market will also show beneficial results, providing, however, that discretion be used in regulating shipments here.

The interior demand is fast helping to reduce surplus stocks, and at the moment we can see nothing but a rather encouraging outlook to the situation. Much still depends on financial matters, however, for hay trade depends on all industries and will be greatly improved when the general rebuilding of the city is resumed.

Although some receivers of hay are cutting prices in order to effect ready sales, yet quotations continue along about as they have been during the past two weeks. We give them today as follows:

Alfalfa local	9.00@13.00
Tame oat choice	11.00@16.00
Wild oat	10.00@13.00
Wheat and oat	11.00@15.50
Wheat choice	16.50@18.50

Grain.

Wheat No 1	1.65@1.70
Barley No 1	1.57½@1.60
Corn small yellow	1.50@1.55
Corn large yellow	1.50@1.55
Oats white	1.60@1.70
Oats red	1.75@1.90

Feed Stuff.

Bran per ton	28.00@30.00
Straw per bale	50@85
Feed cornmeal per ton	37.00@37.50
Cracked corn per ton	37.00@38.00
Rolled barley per ton	35.00@36.00
Oil cake meal per ton	38.50@40.00
Cocoanut cake, per ton	25.00@26.00
Middlings	31.00@37.00

Citrus Market

LOS ANGELES, Jan. 15, 1908.

Oranges have gone forward in large quantities for the last few weeks, stimulated in part by the good prices prevailing. This has caused a slight weakening of the market so that present quotations are lower than a couple of weeks since. If good weather conditions continue in the East, however, it is predicted that fair prices will prevail.

Lemons are commanding a good sale at this time. The output will be large as the weather has been favorable to sizing up the small fruit. The warmer weather conditions of the East is favorable.

Shipments.

Shipments of citrus fruits to date agregate 3809, of which 690 were lemons. To same date last year, 2429 cars, of which 461 were lemons.

BOSTON, Jan. 13.—Market easier. Weather favorable. Sixteen cars sold. Four cars on track.

NAVELS—	Avg.
Niagara fy o r Stewart Ft Co	$2.55
Mizpah xfy Redlands O G P Co	2.50
West Highglands fy High Dist	2.40
Independent fy High Dist	2.35
Eureka st High Dist	2.25
Cannon ch Randolph Ft Co	2.15
Hollywreath fy Cal Cit U	1.80
Forget-menot fy TCC Ft Ex Zan	2.50
Red Label ch TCC Ft Ex Lindsay	2.25
East Highlands A xfy E High C A	2.55
Golden Flower xfy Red G O Co	2.50
East Highlands xc High Dist	2.35
Rescue ch Stewart Ft Co	2.30
West Highlands st High Dist	2.25
Heapgood fy Pattee & Lett	2.20
Mariposa fy Cal Cit U	2.05
Pocahontas fy TCC Ft Ex Zante	2.25
Blue Label fy TCC Ft Ex Lindsay	2.60
LEMONS—	
Pet xc SA Ft Ex San Dimas	2.30
Independent fy High Dist	2.70
Greyhound ch SA Ft Ex San Di	1.90
Independent ch Highland Dist	2.60

CINCINNATI, Jan. 13.—Market steady. It is snowing and cold. Three cars sold. Two cars of Californias on track.

Pet ch SA Ft Ex San Dimas	2.90
Duck st SA Ft Ex San Dimas	2.25
Greyhound ch SA Ft Ex San Di	2.55

Florida Brights, $1.95, $2.05, $1.90, $2.20; russets, $1.95, $2.00, $2.20, $2.45.

ST. LOUIS, Jan. 13.—Market is weak. Weather cold. Six cars sold. Nine cars on track.

NAVELS—	
Gavilian o r Riv Ft Ex River	2.15
Lochinvar xc Red-Hig Ft Ex E H	2.30
Belt st Red-High Ft Ex E High	2.10
Mocker o r Spencer Ft Co	2.10
Pride of Cali st Riv Ft Ex Riv	2.00
Ben Hur xc Red-High Ft Ex	2.30
LEMONS—	
Forgetmenot fy TCC Ft Ex Port	2.45
Oak Leaf ch TCC Ft Ex Port	2.30
Full Value st TCC Ft Ex Pprt	2.50
Newsboy st Red-High Ft Ex	2.25

Floridas averaged $1.30.

CLEVELAND, Jan. 13.—Market steady. Weather stormy. Five cars sold.

NAVELS—	
Cosmos fy SB Ft Ex Yerkes	2.40
Cosmos Thom's Im fy ST Ft Ex Y	2.35
Trail ch ST Ft Ex Laman	2.25
Golden Flower xfy Red G O Asso	2.70
Coral st SB Ft Ex Yerkes	2.30
Carrier st SB Ft Ex Yerkes	2.40
Canyon st ST Ft Ex	2.15
E Highlands xfy E High Cit As	2.45
LEMONS—	
Trail ch ST Ft Ex Laman	2.35
Canon st ST Ft Ex	2.20

PITTSBURG, Jan. 13.—Market steady. Weeather storm.

NAVELS—	
Forgetmenot fy TCC Ft Ex Ptr	2.40
Red Label ch TCC Ft Ex Lindsay	2.30
Oak Leaf ch TCC Ft Ex Ptr	2.25

POULTRY BREEDERS' SHOW.

Continued from page 71.

CECILIAN FOWLS—Mrs. H. B. Barnes, all awards.

DUCKS.

INDIAN RUNNERS—All awards to C. J. Moss, "Mossy Grove," Corona.

BUFF ORPINGTON DUCKS—Goodacre Bros., Compton, 1, old drake; 2, old duck; 1, young drake; 1 young duck; 1, pen; W. J. Barlow, Sierra Madre, 1, old duck; 2, young drake; 2, young duck.

First Prize White Rock Cockerel. Owned by Henry Mumford, South Pasadena.

ENGLISH MALLARD DUCKS—All awards to B. E. Boyer, Altadena.

PEKIN DUCKS—Goodacre Bros., 1, young drake; 1, young duck; 1, old drake; 1, old duck; 1, pen; Mrs. W. Anderson, 2, young drake; 2, young duck; G. Flowers, 2, old duck; 2, old drake.

GEESE.

TOULOUSE GEESE—All awards to Wm. Kobahe, S. Pasadena, Cal.

EMBDEN GEESE—Mrs. L. Nicholson, 1, 3 old gander; 2 3, old goose; 1, 2, 3, young gander; 2, 3, 4, young goose; L. F. Gay, 3, old gander; 1, old goose; 1, young goose; 2, old gander.

AFRICAN GEESE—Wm. Kobabe, S. Pasadena, all awards.

SPECIALS.

Association cup for highest scoring Barred Plymouth Rocks, male, won by F. Espe, Los Angeles.

Association cup for highest scoring White Plymouth Rocks, male, won by A. Rankin, Los Angeles.

Association cup for highest scoring White Wyandotte, male, won by E. B. Varian, Pasadena.

Association cup for highest scoring Columbian Wyandotte, pen, won by E. M. Burnell, South Pasadena.

Association cup for highest scoring Partridge Wyandotte, pen, won by L. E. Berkey & J. L. Holloway, 948 Boston Court, Pasadena.

Association cup for highest scoring Rhode Island Red, female, won by Lake Avenue Poultry Yards, Pasadena.

Association cup for highest scoring White Leghorn, cockerel, won by Swanson & Johnson, San Gabriel.

Association cup for highest scoring Black Orpington, pen, won by Ross & Tate, Altadena.

Association cup for highest scoring Buff Orpington, pen, won by Mrs. J. J. Wall, S. Pasadena.

Association cup for highest scoring Corninsh Indian, male, won by T. H. Broadhead & Co., Los Angeles.

Association cup for highest scoring Buff Wyandotte, male, won by T. T. Gardner, Gardena.

Association cup for highest scoring Minorca, cockerel, won by H. A. Wheeler, Lordsburg.

Association cup for best display pen, solid colored varieties, won by C. A. Latham, Los Angeles.

Association cup for best display pen, particolored varieties, won by Dr. C. E. Winslow, Monrovia.

Persident's cup for highest average score made by a novice, won by Dorothy Meserve, Inglewood.

Secretary's cup for highest scoring Orpington, male, any variety, won by C. J. Moss, Corona.

Vice-president's cup for highest scoring pair shown by a novice, won by Dorothy Meserve, Inglewood.

Superintendent's cup for highest scoring Barred Plymouth Rock, pen, won by F. Espe, Los Angeles.

American Poultry Association Silver Medal for highest scoring cockerel in American ,Asiatic, Mediterranean or English classes, won by T. T. Gardner, Gardena.

American Buff Wyandotte cup for best display of Buff Wyandottes, won by T. T. Gardner, Gardena.

National Columbian Wyandotte Club cup for highest average score won by Frank J. Ironmonger, Hollywood, Cal.

Rhode Island Red Club cup for highest scoring male, won by Lake Avenue Poultry Yards, Pasadena.

Partridge Wyandotte Club of California cup for best display, won by Charles Andrews, Hollywood.

Wyandotte Club of California cup for best White Wyandotte pen, won by E. B. Varian, Pasadena.

Wyandotte Club of California cup for best Columbia Wyandotte pen, won by E. M. Burnell, South Pasadena.

Wyandotte Club of California cup for second Partridge Wyandotte pen, won by Charles Andrews, Hollywood.

Wyandotte Club of California cup for best Buff Wyandotte pen, won by T. T. Gardener, Gardena.

Bantam Club of Southern California for the largest display of any one variety, won by F. Ironmonger, Hollywood.

Pacific Fancier cup for the highest scoring pen of White Orpingtons, won by P. L. Harley, Redlands.

California Cultivator cup for best display of Buff Orpingtons, won by P. L. Harley, Redlands.

Live Stock Tribune cup for highest scoring cock, hen, cockerel and pullet in the American class, won by T. T. Gardener.

Los Angeles' Examiner cup for best twelve birds raised on a city lot, won by Mrs. T. R. Griffith, Los Angeles.

Arizona Territorial Fair Association cup highest scoring pair of Bantams, won in 1907 by F. R. Carrol, in 1908 by L. R. Walton.

Henry Albers' cup for highest scoring pen of Rhode Island Reds, won by Lake Avenue Poultry Yards, Pasadena.

Germain Seed Co. cup for highest scoring pen of White Wyandottes, won by E. B. Varian, Pasadena.

Association cup for largest display from Orange county, won by F. A. Holbrook, Santa Ana.

Association cup for best Silver Wyandotte, male, won by Wm. Starbuck& Son, Fullerton.

Association cuup for best Golden Wyandotte, male, won by G. H. Hopkins & Son, Burbank.

Association cup for best light Brahams, male, won by John Holt, Tustin.

Association cup for best Black Langsham male, won by J. M. Wright, Pasadena.

Association cup for best Brown Leghorn, male, won by Williams Bros., Los Angeles.

Association cup for best R. C. Buff Leghorns, male, won by Dr. W. Holmes, Pasadena.

Association cup for best S. C. Buff Leghorn, male, won by W. Smith, Orange.

Association cup for best Blue Andalusian, male, won by Mrs. T. R. Griffith.

Association cup for best R. C. Black Minorcas, male, won by M. E. Brown, Los Angeles.

Association cup for best Partridge Cochin Bantam, male, won by L. R. Walton.

Association cup for best Black-Breasted Red Game Bantam, male, won by G. England, Los Angeles.

Mrs. Harry Meserve cup for highest scoring Pekin Duck and Drake, won by Goodacre Bros., Compton.

Will Purdy cup for best display of Bantams, won by F. Ironmonger, Hollywood.

Will Purdy cup for best display of Black Japanese Bantams, won by F. Ironmonger, Hollywood.

Will Purdy cup for highest scoring Black Cochin Bantam, cock, won by W. J. Blackman, Los Angeles.

Will Purdy, cup for highest scoring Black Breasted Red Game Bantams cockerel, won by Thad Lowe, S. Pasadena.

Will Purdy cup for highest scoring pair Cochin Bantams, won by L. R. Walton, Tropico.

W. L. K. Christian cup for highest scoring Cornish Fowl, pullet, won by T. H. Broad-Broadhead & Co.

Anthony Schwamm cup for highest scoring Cornish Fowl, cockerel, won by T. H.

Maier Brewing Co. cup for best display of

H. M. Lieb cup for highest scoring Cornish Fowl pen, won by T. H. Broadhead.

Geo. W. Walker cup for highest scoring Cornish Fowl, hen, won by T. H. Broadhead & Co.

Maier Brewing cup for best display of Cornish Fowls, won by T. H. Broadhead & Co.

HARBORS.

Advices have been received by the River Improvement and Drainage Association of California that the invitation extended by it to the United States Board of Engineers in charge of rivers and harbors to visit California has been accepted, and that members of the Board, inculding Daniel W. Lockwood, Colonel, Corps of Engineers, U. S. A., and chairman of the Board, and Lieutenant-Colonel S. S. Leach, Corps of Engineers, U. S. A., and Captain Webber, Assistant-Engineer, other members of the Board will be here early this month.

The River Improvement and Drainage Association of California has been officially notified in regard to this matter, and hearings have thus far been arranged for as follows: San Pedro, January 14, 1908, 12:30 p. m., hearing on San Pedro Harbor; Stockton, January 18, 1908, 10 a. m., hearing with reference to the improvement of the San Joaqin river and its tributary, Stockton Channel, from San Francisco Bay to Stockton; Sacramento, January 20, 1 p. m., hearing in reference to Sacramento river from its mouth to Feather river.

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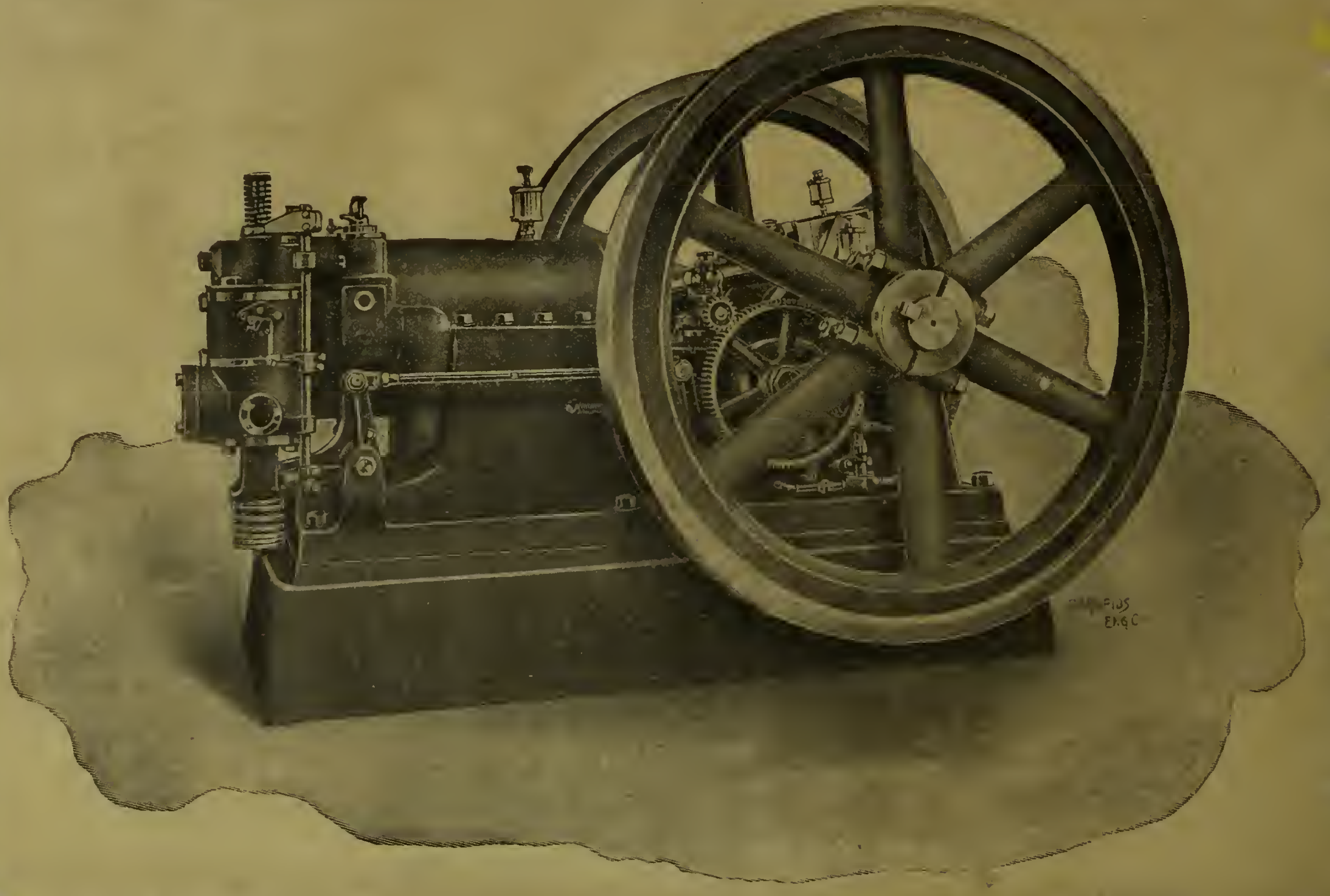

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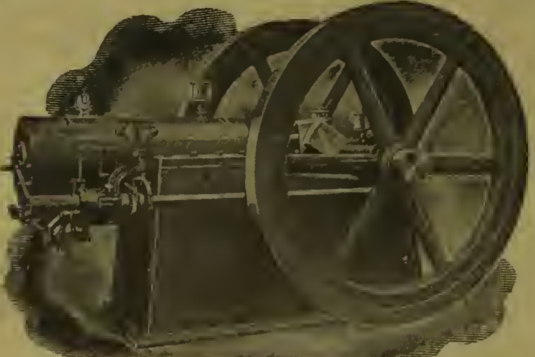

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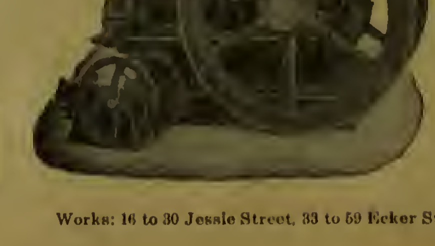

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Beautiful, beautiful billowy sea,
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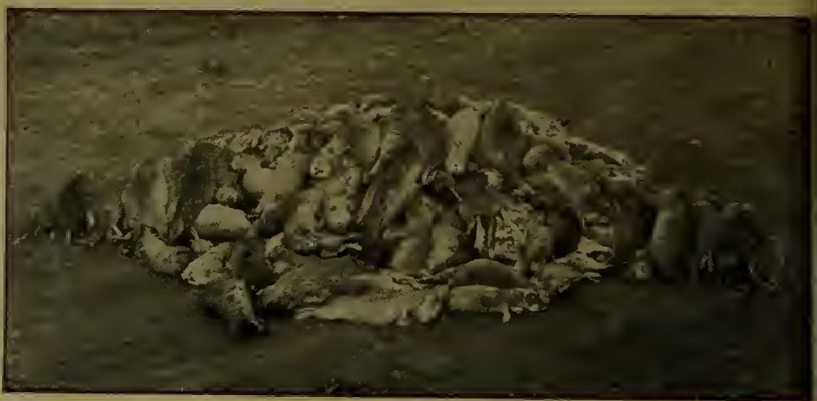

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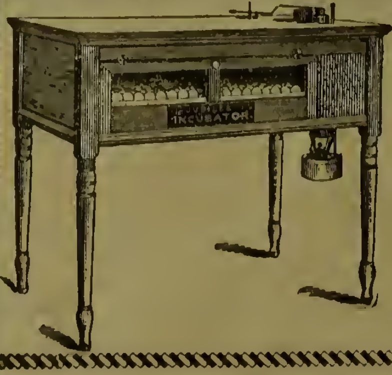

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California Cultivator

ol. XXX—No. 4 Los Angeles, California, Thursday, January 23, 1908 Subscription $1 a Year

nvestigations of the Cabbage Aphis

Prof. C. W. Woodworth, Entomologist of the State University, Writes of His Recent Investigations in the Fullerton and Whittier Fields. This Has Been a Favorable Year for Development of the Pest

THE plant louse, now so abundant on cabbages and which has already destroyed many thousands of dollars' worth of this crop, be- ngs to a group of insects upon which so little s been written in California that very few ve a clear idea of their habits and life history. ithout attempting to treat the subject exhaus- vely or waiting till the studies now under way e brought to conclusion, we will attempt to rnish the growers information for immediate e, so that the situation may be handled as intel- gently as possible.

ne Insect.

The cabbage aphis occurs all over the world, eding exclusively on cabbage, mustard and her members of the same botannical family. t the present time it occurs in our cabbage fields seven forms. The young newly born individ- l (Form No. 1), after about a day the insect has increased in size as to render a change of skin ecessary. After this change two forms can be cognized, one ovate in shape, (Form No. 2), d another with the suggestion of a waist-like nstriction, (Form No. 3). Another day or two ill require a second change of skin. The ovate rm retains almost the same shape (Form No. , but the other is still more constricted near the iddle and possesses on each side conspicuous cket-like outgrowths on which wings are finally eveloped. (Form No. 5). The insect gains early full size before the final change of skin is ecessary, and which produces the mature insect, ither wingless (Form No. 6), or winged (Form o. 7).

reat-Grandchildren in a Week.

A plant louse thus either passes through the rms 1, 2, 4 and 6 or 1, 3, 5 and 7, according to hether the insect becomes winged or not. In ither case, the young by form 6 may become rm 7 in the next generation, or vice versa, and wo lice born the same day from the same pa- ent may either produce when full grown one of ach kind or both of the same kind. At the pres- nt time there are no male insects being pro- uced, nor any females capable of laying eggs; ndeed, such forms have never been noticed in he case of the cabbage aphis, though it has been nder observation in this country and in Europe or many years. All increase is by the birth of iving young without sexual reproduction and at rate that is almost inconceivable. A cabbage ouse of form 6 can produce several young in a ay, and in a week may sometimes see its great- randchildren. This rapid development only oc- urs in case the insect passes through the forms , 2, 4 and 6. This is the line followed when all he conditions for growth are the best. In case onditions are less favorable, some will develop hrough the series 1, 3, 5 and 7, and the winged nsect leaves the plant in search of better quar- ers. Sometimes nearly all of the insects on a plant assume this line of development, and the plant thus is almost or quite rid of the lice. The flying forms are not as prolific as the wingless mothers, but if they are fortunate in finding favorable feeding places their descendants become wingless and are soon prosperous colonies.

Checks to Increase.

Any one mathematically inclined can soon compute that plant lice could soon completely cover the earth with their progeny, but in fact they seldom or never reach a point where all the available food of the kind upon which any particular species depends has been exhausted. While a good proportion of cabbages in a field may be so stunted as to fail to produce merchantable heads, still in the worst condition some heads will be produced. This is because plant lice have natural checks limiting their increase.

Beneficial Insects.

The most conspicuous checks to the increase of plant lice are the ladybirds. The common red ladybirds are rather common in cabbage fields, and sometimes one will see a few of their larvae. In no field visited have these insects been abundant enough to eat one per cent. of the natural increase of the plant lice. Next most abundant were the larvae of Syrphus flies, footless, slug-like maggots that feed very voraciously, but are still more helplessly inadequate than the ladybirds. A third group of insects are the parasitic wasps. These are very conspicuous from the fact that when a plant louse is stung it swells up almost spherical in shape and becomes pale brown in color and clings firmly to the leaf after death; finally from these mummies a wasp issues, by cutting a round hole in the side or back. After living plant lice have disappeared from a leaf these dried remains may be all that remains of a colony and may give the impression that the colony was destroyed by the parasite. As yet no single leaf was found in which the number of parasitized lice amount to one per cent of its total number bred on the leaf. Possibly under different conditions beneficial insects would make a better showing, but they have not been an appreciable factor in the situation of our cabbage fields this season.

Contagious Diseases.

Plant lice are known to be particularly susceptible to contagious disease. These may be grouped into two classes: those produced by fungi and those due to bacteria. The former are the most evident, though perhaps the latter are the most efficient.

Fungous diseases generally result in the production of dried up mummies, often clinging to the leaf, and under proper moisture conditions becomes finally covered with a dense, mold-like coating. In some fields a greenish fungus is very common and may have been largely responsible for the disappearance of the insects from such plants.

Bacteria are minute microscopic plants and absolutely invisible to the eye. Bacterial diseases usually cause insects to become flabby, the insects losing their power of locomotion, generally fall to the ground and finally collapse and dry up. Others may be ruptured upon the leaf and their collapsed, dried bodies remain attached to the leaf. There may have been several of these diseases at work among the cabbage aphids, but it is very difficult to study and not enough work has yet been done to justify any statement regarding them, other than that in the majority of cases where there has been evidence of diminution of aphids, the diseases have not been an important factor.

Weather Conditions.

There is no doubt but that the weather is often directly responsible for the death of a great many plant lice. Severe enough frost will certainly kill them, but there has been no death in the cabbage fields this year from frosts and it is doubtful if frosts severe enough for this purpose are ever to be expected in our winter cabbage growing section. Heat also is fatal to aphids, but here again we have a factor not of local significance. Heavy rains may beat plant lice from the plant and accomplish their death, since a very small number thus detached ever get back on the plants. The rain we had a few nights ago was about as hard as we can expect and while many lice were actually destroyed, there were very few cases where those thus removed could not be replaced by the natural increase of those that remained in two or three days.

The direct action of the weather conditions is thus seen to have been a very small factor in the present situation. Indirectly the weather is probably always a most important factor. Plant lice thrive within rather narrow limits. When the weather becomes too moist the disease becomes too prevalent. The poor showing the diseases have made this season has probably been due to the lack of rain. The past experience has been that rainy spells result in a general destruction of plant lice. The supposition that the rain is directly fatal is worng, but instead, the moist conditions of the atmosphere favor the dissemination and increase the virulence of the contagious diseases. Everyone has probably noticed that while rains generally cause the destruction of the insect, in certain cases they will remain just as bad as ever; sometimes on single plants where there seems to be no reason why the weather should not have had the same effect as on surrounding plants. Since the death is due to disease, however, such cases are to be expected, due to the absence of the necessary disease germs.

Dry Weather Also a Check.

Such a dry condition as has prevailed this season presents another limit to their continued development on a plant. As long as there are only a few lice on a plant, the conditions are rather favorable to growth and the insect develops along the line indicated above as forms 1, 2, 4 and 6. After the plant becomes badly infected, if the weather is dry, we see the insects suddenly changing their mode of development to forms 1, 3, 5 and 7, and when stage seven is reached they fly off into the air. The dryer it is at this time the less the chance of one of these migrants getting back onto a cabbage plant with enough vitality remaining to enable it to leave descendants. Whole fields have in this way become almost free from lice and many plants in almost any field not too recently planted will show the curled leaves of extinct colonies. Dry weather acts thus as a check preventing excessive numbers, but not protecting the plant from injury, since winged forms are only produced after the plant is in a bad way and new colonies are established again whenever the plant makes a new start. Winged forms can be seen in the air everywhere about cabbage fields and it would be only an accident if a plant should escape being infected.

Remedies

It will be thus seen that natural checks are hardly classible among the things we can control and therefore make use of, so at times we must resort to remedies if we are to escape the destruction of the crop. Still these natural checks are usually more efficient than any practical remedy, and it is necessary to understand their nature if we would avoid the mistake of applying a remedy when not useful, or refraining from a treatment

Concluded on Page 103.

With the Citrus Growers

THEORY AND PRACTICE IN PRUNING LEMONS.

THE best pruners of lemon trees give their employers the benefit of years of observation as to the best methods of pruning and the best months in which to accomplish desired results. This does not generally refer to certain well prescribed "systems" of cutting the trees such as that ascribed to our Italian friend Baronio, for there are many tricks which the expert pruner takes advantage of according to the needs of the grove or the individual tree in hand, which are more important than these wider systems to which too close a conformity is often injurious.

As suggested, these finer but important details are the property of expert pruners and are the result of years of work and careful observation. Too often they are entirely unknown to the small grower who is new at the business and who wishes to do his own pruning. In cutting the tree he depends too much upon book knowledge of certain systems, or has constantly in mind a certain principle in regard to time or method of pruning, which may not apply to his grove at all. No one but the man who has tried appreciates how difficult it is to prune a fruit tree of any kind with ony theoretical knowledge to draw upon. It reminds one of a famous saying of Josh Billings: "It is easy to make a hornet's nest if you know how, but I'll bet you could'nt make one that would sell to a hornet at half price."

I have in mind two groves situated on opposites sides of a public highway. The soil is of the same character in each, and the trees of the same variety and age, yet one produced from twice to three times as much fruit on ten acres as the other on fifteen. Differences in cultivation, fertilization and irrigation were slight. But the owner of the fifteen acres had his pruning done in June and July. He was working on the theory that the growing water shoots extracted much nourishment that should have gone to the fruit. By clipping them at that time of the year he was not destroying them as he hoped, but forcing out from the base of each half dozen new ones, which filled the trees so completely that they were as dense as an evergreen hedge and really spent their entire energy on this vegetative growth.

Those who practice flat pruning to excess are bringing about much the same order of things and will have this difficulty always to contend with. They will learn that more and more must be added to the labor bill each year to keep the trees in shape. There is primarily a small bearing surface on such trees and a perpetual fight ensues to keep this sufficiently open to make it bear fruit. The best growers, and especially those who have the Eureka lemon, find it generally profitable to keep an open tree, not too low, into which the sun can penetrate, and which will as a result both inside and out; indeed many claim that the best grades of lemons are produced on the inside of the tree. Such a tree will not need to be "shorn" when it is pruned, and will naturally shade itself sufficinetly to protect its outside fruit from burning by the summer sun.

If "suckers" are pruned in the fall after their years' growth is nearly completed, or after they have lost much of the purplish color at the tips, they will be eliminated instea of throwing out branches. On the other hand, the top of a tree can be thickened in places desired by cutting these growing shoots earlier in the summer six inches, more or less from the base. They will then branch at the remaining leaf bud and these branches, if properly tended, will make fruiting wood to fil out the head.

This is only one of the prominen features of malpractice in pruning, and there are many others. Inexperienced owners or aspiring pruners will always find it profitable to study under an experienced hand, not a contract pruner who "cuts," but one who has a reputation to maintain and who knows at once by the appearance of the fruit and branch of each individual tree what its requirements are. Even if the owner should hire such an expert and prune the trees first under his direction, it would be cheaper than learning entirely at the expense of the grove he has recently acquired, at the risk of defeating his own ends. Such a training would also bear directly on his own property and would eliminate the possibility of a difference between its needs and those of a neighbor's grove where he could go to receive training from a pruner hired by the latter, expecting later to apply this knowledge to his own property. Contact with such an expert would soon teach him what a large influence time and method of pruning have on the productiveness of the trees and the difficulty of getting them back to normal after a series of improper or untimely treatments.
—B. J. Jones.

OAK FUNGOUS DISEASE.

This local but very destructive trouble has shown itself in a number of citrus groves, and in several of these replanting has already become necessary. The disease has been known for many years and is very damaging in many deciduous districts where the trees have been planted on land formerly occupied by oaks. The writer has seen several acres of peaches entirely killed out by it. On citrus trees it has much the same appearance, is apparently as destructive and should be readily recognized by the orchardists.

The fungus attacks trees by contact of their roots with decaying oak roots. The rot spreads rapidly among the roots and up to the trunk of the trees, stopping at the ground lino and appearing just beneath this in a rotting and disintegration of the tissues, accompanied by a white growth in the inner bark. It belongs in the toadstool group, and the fruiting stage, small toadstool formations, are rarely seen about the base of diseased trees.

It is evident that, as planted trees become older and their roots interlace, it will spread readily from one to another by contact and thus eventually cover a considerable area.

Theoretically, this disease should always be considered in planting out new groves on land occupied by oaks. No resistant roots are known and this does not appear to be a field for control as these roots are all softer and more susceptible than those of

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oaks, the primary hosts. The land should be allowed to stand for about two years after removing the oaks, possibly being planted to annuals of some sort, before the deep-rooting trees are put out. When the oak roots have partially decayed, after being burned out as far as possible, it is a good practice to place a large dose of carbon bisulphide in the pit so that it will penetrate into the soil along the line of the decayed roots and disinfect it thoroughly before trees are planted.

An expert from the experimental station who has had much experience with this disease in deciduous trees and vines, suggests that a pit should be dug about infected trees and a solution of copper sulphate (bluestone) one and one-half pounds to one gallon of water, poured into it. This will protect the main roots and enable them to throw out laterals to save the tree and at the same time it will cut off the connection between diseased portions and those unaffected, and thus prevent the spread of the trouble to a large extent.

If your lemons or oranges are sickly in some parts of the grove, you may discover that they are affected with this trouble and an early application of remedial measures may save many trees and prevent further spread of the disease.—B. J. Jones, San Dimas.

SAYS CYANIDE DAMAGES CITRUS TREES.

S. W. Smith, who owns a fourteen-acre orange grove, near Olive, reports to the Blade that a large percentage of his trees have been damaged by careless methods of the fumigators in dumping the residue of cyanide and sulphuric acid left in the jars after fumigating on the ground beneath the trees. Mr. Smith says his attention was recently called to the fact that several of his young orange trees that had been fumigated a couple of months ago were apparently affected with dry rot. He at once began an investigation that led to the discovery that wherever the cyanide and sulphuric acid jars had been emptied beneath the tree, that tree was more or less affected in the manner described.

Digging down to the roots of these trees, Mr. Smith found that the cyanide had penetrated through the soil and had caused the root to wither and dry up, and had also worked upward and affected the branches fed by the root that had been damaged. Out of his fourteen-acre grove Mr. Smith says he found thirty trees so affected, and as this is a pretty big percentage, he wants the result of his discovery made public, to the end that other fruit growers may profit by his experience.—Santa Ana Blade.

CUTTING ORANGES GREEN.

During the last few weeks, in fact ever since the Florida orange season opened, the strange shortsightedness of many, in fact most of the growers, has had another exhibition in the wholesale markets of Philadelphia.

Not since shipments of Florida oranges begun this season have 10 per cent of the retail grocers of the north had a thoroughly ripe orange in their stores. The fruit has mostly been such as the native Floridian would refuse to eat. Picked stark green and rushed north to get the northern money, the fruit has ripened slowly and irregularly, being usually put on sale bruised with green blotches of an exceedingly unsavory appearance. The flavor of such oranges bear no resemblance whatever to that of a properly ripened Florida orange. And that the public recognizes the difference is seen from the fact that oranges of the latter class are now eagerly wanted at $4 per box, while the green kind find it quite difficult to get from $2 to $3.

In other words, the shrewd foresight of the green orange picker has had the extremely satisfactory result of cutting his price from $1 to $2 per box for his fruit.—Grocery World.

ALASKAN YUKON EXPOSITION.

The Alaska-Yukon-Pacific Exposition will be held in Seattle, Washington, during the summer of 1909, and California is much interested in its success.

An appropriation of one hundred thousand dollars was made at the last session of the Legislature, in order that California may be properly represented at this Exposition.

The various commercial organizations of the State are already taking up the matter, and it is hoped, with the co-operation of these bodies, that all parts of California will have an opportunity to exploit their resources and to take advantage of the general appropriation made by the people of the State for such prpose.

As is well known, California formerly enjoyed the Alaskan trade, but of recent years this trade has fallen away materially, notwithstanding the fact that the business of Alaska has increased to very large proportions. As this trade with Alaska will continue to increase as the country is developed, there is an opportunity for California to benefit by it in an increased commerce with that part of the United States, without materially affecting the present trade that is now in the hands of the Seattle people. In other words, there is room for all.

The Alaska-Yukon-Pacific Exposition will give California an opportunity to properly present its vast resources and its claims to a portion of the Alaskan trade, as well as to exploit same among the vast number of strangers from all parts of the world who will visit the Exposition.

The California Promotion Committee offers to assist California's representation in every way possible, and its facilities are at the command of the people.

BUREAU OF IMMIGRATION.

The Cultivator is in receipt of a set of blanks which the Department of Commerce and Labor is sending asking assistance in the distribution of aliens who are daily landing in New York. The blanks ask many questions, to give an idea of the advantages offered to the settler. The statement accompanying the blanks says:

Authority is given the Commissioner-General of Immigration to establish, under the direction and control of the Secretary of Commerce and Labor, a division of information in the Bureau of Immigration and Naturalization; and the Secretary of Commerce and Labor shall provide such clerical assistance as may be necessary. It shall be the duty of said division to promote a beneficial distribution of aliens admitted into the United States among the several States and Territories desiring immigration. Correspondence shall be had with the proper officials of the States and Territories, and said division shall gather from all available sources useful information regarding the resources, products, and physical characteristics of each State and Territory, and shall publish such information in different languages and distribute the publications among all admitted aliens who may ask for such information at the immigrant stations of the United States and to such other persons as may desire the same.

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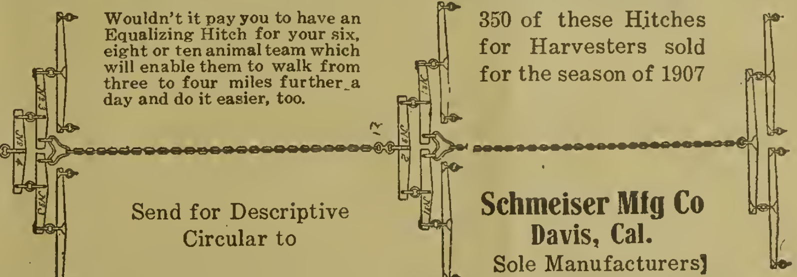

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Live Stock and Dairy

COW CARE.

THE expense of raising calves on a dairy that sells milk is often a tax on the profits that is illy borne. It is for this reason that the man having cows in the country and selling butter fat only, has a chance of a heavy profit by selling off his herd of cows at seven years old. He receives four years of milk profits out of them and then turns them over as a developed herd to the city man at a further profit. The cows going in car load lots are not worried by the change and go right along in their milking. The buyers will come back year after year, or send their friends. This can be made a regular industry, and it is profitable. The herd never grows old on your hands, and the profits come in regularly after a certain number of years. The selling of single cows is annoying business, for it takes too much time and the association with the class of cow buyers is unpleasant. They do not raise one's opinion of humanity and that is a misfortune.

Losses.

In the average herd of a hundred cows, losses are about six head a year when the cows are of various ages. Among these losses are the culls sent to the butcher as well as those that die from natural causes. Many of these losses are saved when the herd is sold off at seven years of age. The reducing of losses has to be considered more than the making of gain in these days of financial pressure. In California, or at least in this part of the State, we are not good economizers, we simply can make money easily and when it becomes a little short turn around we make rather than to cut down and save on expenses.

* * *

Fresh Cows.

As soon as a cow drops a calf, she should be watched carefully. After the cow has made the calf's toilet, remove it far enough away that it cannot nurse, but is within sight of the cow. The only reason why a calf should suck a cow is that of reducing inflammation of the udder. This is hard on the calf's digestion, for the milk is apt to be affected. As soon as the milk comes into the udder, enough should be drawn to relieve distention. Feed this to the calf at once. The first milk has a different character from the normal milk. It is a laxative and clears out the calf's stomach and bowels. It also starts the normal rennet juices in the stomach to care for natural milk. It is hard to make any young thing live and thrive that does not receive this first nourishment from its mother. This often is seen today in the human family; a little baby will live along maybe for weeks, puny and fretful, before its little life goes out. The doctors call it all sorts of names, this that ails the baby. These troubles would not have come had the baby started off in life in the natural way by receiving its nourishment at the maternal bosom.

Milk Fever.

The cows that are fresh need watchful care. During the first forty-eight hours avoid milking them out clean. Draw only enough milk to feed the calf and relieve distention of the udder. Milk the first two days, three or four times a day, and feed the calf each time. The men of the Isle of Jersey were the first to discover this prevention of milk fever. The Americans were slower to learn their lesson. A few years ago, milk fever was a scourge that kept the dairy industry down. The dairyman always lost his best milkers from this disease. The breeders of fancy cows had to lose by light feeding, the first flush of milk for fear of milk fever. Men preferred, as more practical, scrub cows, for they were not often victims of the disease. Back in Pennsylvania when I was a child, the men sat up all night with a fresh cow, having her in a room with a fire. They had observed that a cow was not as likely to have milk fever when kept in the stable in the winter time as when she was out in the field. The protection from chill saved the cow from milk fever in many cases, no doubt.

Milk Fever.

When nature's conditions are violated and milk fever comes, it is no longer deadly if promptly treated. Where there is a good veterinary at hand send for him. He will have the air pumping outfit needed. A sterilized milking tube is inserted into each teat and the udder pumped full of air. This is putting back the distention the removal of all the milk had reduced. In a large herd the dairy room should be supplied with a milk fever pump and a trocar for bloating. These two troubles may occur at any time in a herd. Both are deadly if not promptly treated. Where the distance is great to town, or there is no qualified veterinarian, then try to relieve the trouble by using a bicycle pump. This is attached to a rubber tube and the tube has the milking tube fastened to it. The milking tube is carefully sterilized in hot water and slipped into alcohol while carrying to the barn. If the teat is very small it may be necessary to oil the tube; this is done by putting it into a bottle of vaseline. A set of milking tubes are needed on every farm no matter if only a couple of cows are kept.

Garget.

The air treatment is the best thing for garget. If used early will

A SURPRISE.

I assure you it gave me a very pleasant surprise to see the recent Cultivator which was devoted to the stock industry. I appreciate this number and am sure it will be of value to the stock and dairy interests of this State.

U. G. STRADER, Ceres.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

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We wish to call your attention to the fact that we have a large stock of Wood Sole Boots and Shoes of the very best quality. The Uppers are made of the very best quality Milwaukee Oil Grain. The Soles are well-shaped, and are an exact and comfortable fit, and our ***Patented Fastening*** makes this a ***Waterproof*** Shoe. We all know wood is a non-conductor, consequently it is much drier and a great deal ***warmer*** in Winter. They are lighter than Rubber or Leather Shoes and Boots. Shoes, $2.00; Boots, $3.25.

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caseine web catches a third to half the cream. You stand that loss just as long as you use pans or cans for they haven't enough skimming force to take out all the cream. But, just the minute you commence using a Sharples Dairy Tubular Cream Separator, you stop that loss.

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abort an ordinary attack that comes from colds. The attacks that come from blows or horns will have to run their course. These cases, however, are helped greatly as the inflammation is decreased. The best part of this treatment is that any one can use it that is cleanly. The cow is put into the usual place where she is milked. The operator sits down on a milking stool and gently inserts the milking tube and pumps in the air. After all the air is pumped in that the udder will take up, sit still a minute or two and then see if a little more will be received. The little crackling sounds as the air penetrates and inflates the tissues, often alarms the operator, but it does no harm. The portion of the udder not affected can be milked out clean before beginning the air treatment. When the tube is withdrawn sometimes all the air follows it. The best thing to do is then to put a rubber band around the teat after the quarter has again been filled up. The rubber band should be slipped over a card, a visiting card folded over the teat, to equalize the pressure will prevent strangulation. This rubber should not be used for more than a few days or the teat may be injured. These cases of garget usually yield after two or three treatments, if the cow is dieted at the same time.—M. E. Sherman.

A GOOD SHOWING.

The following is from a reliable publication:

Not long ago a farmer in Iowa went to a harness dealer to buy a team harness. He found one that suited him and the price was $45. The farmer happened to remember that about a dozen years ago he had bought a harness just like it from the same dealer for $35, and he mentioned the fact. The dealer went to his books and found this to be true. "But," said the dealer, "my books show that you did not pay cash for it, because you did not have the money. You hauled in 300 bushels of corn and gave it to me for the $35 harness. Now I will tell you what I will do. If you are willing to bring me 300 bushels of corn I will give you the $45 harness, also a double buggy driving harness, also a plush robe worth $7, a boys' riding saddle, worth $5, one pair of wool blankets, worth $7, one whip and riding bridle, worth $1.50, two leather halters, worth $2.50, brush and curry comb, worth $1, and a rawhide buggy whip, worth $1."

RICH NEWSPAPER FUTURITY.

One of the richest and the most liberal futurity stakes ever offered for trotters and pacers is being promoted by the Horseman and Spirit of The Times of Detroit, Mich. The stake is guaranteed to be not less than $15,000, and according to conditions, all the money contributed to the stake by breeders in the shape of nominating and starting fees will go into the stake as added money.

The stake will be raced in three divisions: For three-year-old trotters there will be a purse of $10,000; for two-year-old trotters the purse will be $3000; for three-year-old pacers $2000.

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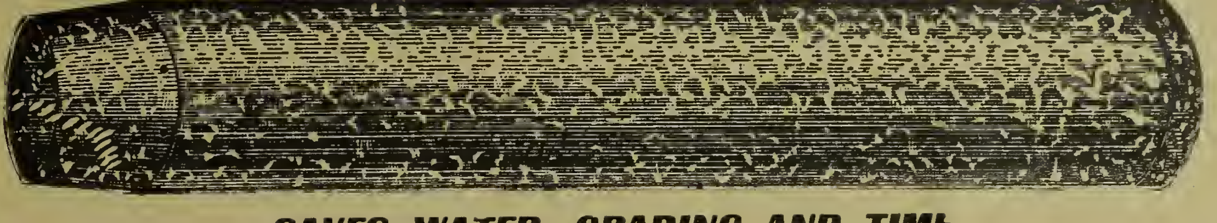
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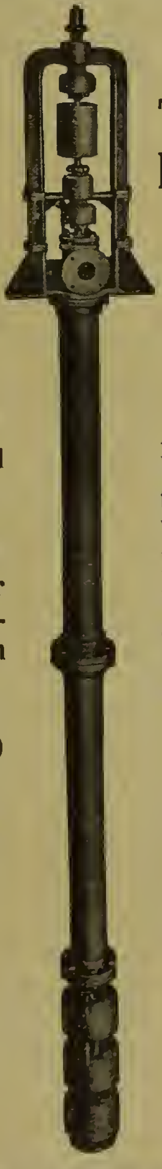
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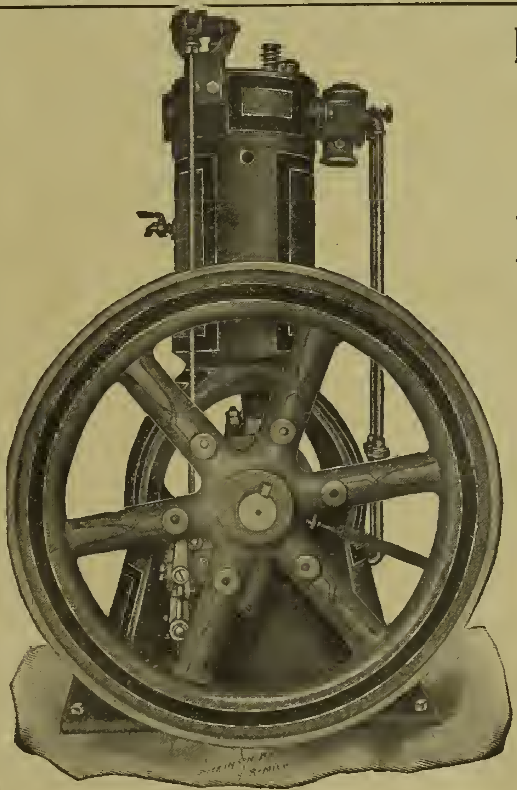
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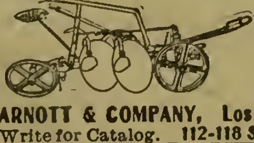
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The Peach Industry

I HAVE been asked time and again, both in person and by correspondence, whether the growing of commercial varieties of peaches, apricots, nectarines, prunes and plums will ever reach a stage whereby the growing of these fruits will be overdone.

In answer to these many enquiries I shall take up the matter separtely, and give my views on the fruit industry in general as it is carried on in California, from a nurseryman's standpoint, and, as far as possible, give a practical view of the subject.

I contend that the growing of drying and canning peaches will never be overdone, and, I give as my reason, the limited area in the United States which is suited for the growing of this fruit on a commercial scale, and especially in the dried and canned state.

In the first place the peach will thrive and produce in any section of the United States, from Canada on the north to Mexico on the south, inculding these countries, and from Maine to California. The demand for dried and canned peaches from California is reaching greater proportions every year, and one would naturally want to know why California is looked to to supply the demand for these classes of commercial fruits. It is a very simple matter to explain.

In the first place there is only one section of the United States where peaches can be grown in order to produce a commercial—dried or canned-fruit, and that section is in California, commencing at, say, Red Bluff on the north, and ending at Yuma, Arizona on the south, except possiblly a few favorable locations situated in Arizona and New Mexico, where there is very little rainfall during the summer season.

In order to produce the commercial dried peach it is necessary to grow the fruit in a dry climate, which allows it to sugar up. In California we only water the trees when water is needed, while in other portions of the United States, where there is practically a continual all-the-year-around rainfall—that is, it is liable to rain at almost any period of the year—the fruit in such localities becomes too watery, hence its inadaptability for drying and canning purposes.

This accounts for the mushy condition of Eastern-canned peaches and the drying-away of the fruit when drying is attempted.

About six years ago I made a trip throughout the peach growing sections of the United States, especially in Mississippi, Alabama, Georgia and the Middle States, for the purpose of getting data on the peach, in a commercial way. I found that it was next to impossible to produce a peach in those localities that would make a commercial-canned or dried product. The Eastern peaches when canned, although apparently firm when put up, in a few months the fruit falls down and simply thickens the syrup, and gives the contents of the can a mushy appearance. They make what are called "pie-peaches" so largely used by bakers for pie making. Not so with our California peaches.

The California fruit remains firm, even if kept in the cans for fifteen years or more, and when opened it is as firm as when first put up. This condition is due to the fact that our dry climate produces a fruit that is firm and sugary, and all the surplus water in the fruit is practically eliminated before it is canned or dried.

What is the result when Eastern peaches are dried? They simply dry away and nothing remains, but the skin. If this was not the case, how is it that we are called upon to supply the commercial-dried peach, when the peach, as already stated, is grown so largely all over the United States? When the Easterner cannot market his fruit in the green state, what is the result? Does he dry the same or can it? Why does he not do it to prevent a green-fruit glut? He simply cannot make a commercial product, owing to the fact that Eastern-grown fruit carries too much water and is not firm enough for the purposes already named.

Take, for instance, the green fruit which is marketed. Is it not a fact also, that our green fruits always command higher prices than the Eastern fruit? Why? I shall tell you why in a few words: When our fruit reaches the Eastern markets, it is a well known fact that it keeps better owing to its firmness, is not subject to bruises which is the case with fruits that carry a high percentage of water. When an Eastern peach becomes bruised it rots rapidly, and the fruit stand man is the loser, unless he succeeds in working off the fruit as rapidly as possible.

California fruit is not only packed better, but it is firmer in every way, and, notwithstanding it travels a thousand miles further than most of the Eastern product, it reaches the market firm, highly-colored and in otherwise perfect condition, barring, of course, accident and unusual delays in transit.

The average life of a peach tree is twenty years, and it can be readily understood when you consider the limited area for growing commercial peaches that it is next to impossible with the constant demand and increased consumption to overdo this important industry.

I might say the same thing about apricots, nectarines, prunes, raisins, wine and table grapes. In the language of the street, California certainly has it on every other State as a producer of commercial fruits, and she has no equal in the production of peaches, apricots, apples, prunes, plums, citrus fruits, wine and table grapes.

There is nothing in the fruit line produced in other countries on a commercial scale that we cannot duplicate or excel, as far as quality is concerned.

The latest great achievement of our State is the growing and marketing of the commercial Smyrna fig, which practically completes the list and classes us as the greatest fruit section in the world.

We took hold of this Smyrna fig business (thanks to our fellow townsman, Mr. Geo. C. Roeding, for his determination and enterprise) and have brought it to such a state of perfection that there is nothing in the fig line that can excel the California Smyrna figs.

When we got the trees established they told us we needed a bug, or fig wasp, to fertilize them. This was a new phase of the subject. Did we

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A carload of deciduous fruit trees of the latest varieties. Clean and healthy—all true to name—are now at the Stewart Bros.' tree yard, 732 S. Spring St., for sale. Several new as also old varieties of apple trees which cannot be excelled. Large stock of walnut trees, peaches and apricot. Full assortment of grapes, orange and lemon trees. Best Northern and home grown trees. Call early and get prices. Special prices made to early purchasers.

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STEEL AXLE
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get the bug? Well, I should say we did, and we put it to work with every prospect that it will continue to work and make us wealthy.

If any of these foreigners thought we could not establish the insect they have since learned better. We do not have to harness them either; they work in their adopted home, both double and single, and it does not take a very large collar to fit their necks, either.—by Chas. A. Chambers, of the Fresno Nursery Company.

CUTTING CIONS.

It has been demonstrated by the most successful fruit growers that the cion from which a tree is grown has much to do with its prdouctiveness when it approaches the bearing age. Much has been said and written concerning the value of a hardy root for the trees in our orchards but, in my opinion, cions from productive annual bearing trees are fully as important to the orchardist.

These can be cut any time in the fall after the wood is fully ripe and the buds well healed. This occurs when the leaves fall and the buds are exposed for a time to the air which so hardens them that no loss of moisture will occur through these natural outlets during their dormant periods.

Select vigorous, hardy, disease-resisting trees for your cions. They should also have established the reputation of being annual bearers, producing fruit of high quality. We believe these characteristics may, in a measure, be intensified when great care is exercised in selecting the cions which are to be used in making the root grafts. The same principle also applies to the top-working of the fruit trees.

FUNDS FOR TEACHING FORESTRY.

A plan to be urged upon Congress at the present session is very commendable in its promise of beneficial effect. It is to secure instruction in forestry in the State agricultural colleges throughout the Union, and experiments in forestry to be made by the State experiment stations. The proposal is to add to the Morrill and Hatch funds, by which the colleges and stations are endowed, $2500 for each of these purposes—so much for forestry instruction to students, and the same amount for research, making a total of $5000.

The Davis bill, aiming at this end in a previous Congress, has been redrafted, and it is to be hoped that it will receive earnest support from the country. The income derived from the National Forests has been used for several years to put the United States Forest Service on a good footing. At its last session Congress directed that the income should no longer be used for this purpose, but covered into the Treasury. What could be more appropriate than to use a portion of it for adding to the people's knowledge of methods of preserving and economizing the woodland resources which they possess outside the National Forests? Four-fifths of the woods of the country are in private hands; and a large share of these are in the shape of farm woodlots. The farmers, at their colleges, should be taught to improve their timber crop as well as other crops.—Forestry and Irrigation Magazine.

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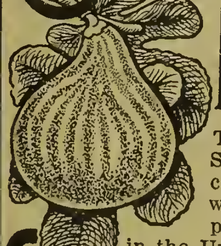

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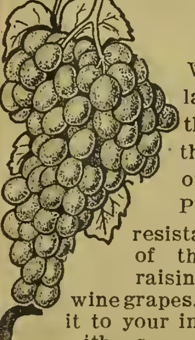

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Geo. C. Roeding, Pres. and Mgr.
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AGRICULTURE IN THE PUBLIC SCHOLS.

A large per cent of the school taxes in California is paid by the agricultural class. It is, therefore, only proper that our common schools should be in charge of those who understand the elementary principles of agriculture.

If the trustees elected by the people, who have the common schools in charge, will insist that teachers shall know something about the fundamental principles of farming, of botany and horticulture, the higher schools will inculcate these branches in their courses of study and young men and women from these institutions will be required to teach, at least, the elementary principles of agriculture. Our common schools need more of this line of work. It has been neglected for higher mathematics and other studies not essential to success in farming.

The trend of population for many years will be toward the farm, and our common schools ought to be preparing the youth of the country for the life before it.

During this year let trustees of the common schools prepare for the coming year's work by hiring teachers who know something about agriculture. The best teachers, usually, are those who have had some practical knowledge of farming; add to this the training received in the State Agricultural College, and we shall have really well equipped common school instructors. We trust our agricultural college may make a strong point of preparing teachers for the common schools, for by so doing, the grade of our school system will be advanced, and our boys and girls given instruction which will be of value to them in any department of work in which they may engage.

THE BUSINESS OUTLOOK.

The country is recovering from the late financial storm. The clouds are breaking and there is a semblance of the old time activity which marked commercial and industrial conditions. The storm broke in New York, and it was to be expected that it would first show a clear sky at that point. So it has. The reserve deficit of the New York banks has disappeared. This deficit has not only been wiped out but in its place a surplus of millions has appeared. This is a happy outcome of a situation which has covered a period of ten weeks. It illustrates the inherent recuperative power possessed by American financial institutions. It is a testimonial to that same conservatism of American business men. It shows that whether gradually or unexpectedly they are brought face to face with a crisis they have the capacity to meet it.

The commercial agencies are all agreed that the present outlook is brighter than for some time. Money is easier. While trade is more or less quiet, as is natural this time of year, marked improvement is discernible.

It is not a refutation of these stories of betterment to say that effects of the late financial unpleasantness will continue to come to light for some time. Business failures continue to increase but that is to be expected. They will keep coming for some little time. However, these are the aftermath of the recent troubles. The number of these failures will materially lessen as the process of readjustment is carried toward completion.

There has been great improvement in the bond and stock markets. Those who made conservative investments in good railway and industrial bonds are beginning already to see the wisdom of their action, while stocks are commencing to climb back in the direction of the figures around which they clung in normal times. California is proportionately less affected than almost any other State. Our failures have been fewer and their volume less heavy. There will be a steady return to normal conditions as the output of our products swell the bank balances of the growers. While there is no cause to worry in California, there should be no such extravagance indulged in, in the future, as there has been in the past. We ought to get back to first principles regarding our methods of living and stay there.

GROW FOR HOME CONSUMPTION.

We often wonder why every owner of a piece of land does not grow thereon about everything he needs for home consumption. The theory that he can devote himself to a specialty, raise one thing, and sell it, and then buy what he needs for his own use is very altruistic, but exceedingly expensive and visionary.

If things could come out as we figure them we might all be rich, but they don't. For a cycle of years they bring success, we make money and are contented. Then the conditions change and reverses come and we are hard run. Now, if we have been wise, our land is so platted and cultivated that we are able to raise everything we need along the line of garden truck, and our expenses, if we own some chickens and a cow, are within our range. We all know that specialties fail, sometimes, and the only safe rule for every tiller of the soil is to raise enough to live upon if he has to and if he has any surplus he can market it. Every dollar saved in this way is a dollar earned.

Make up your mind to look after the home table fully as well as anything intended for the market. In doing so you make many a dollar, in addition to being independent of the local store or the huckster.

Vegetables we buy out of the grocery and out of wagons are often stale and tasteless, taken fresh from the ground they are succulent and delicious. Onions, peas, tomatoes, cabbage and lettuce can all be grown on small plots and make one rejoice when he eats them that he knows where they were raised and just how.

STATE CONVENTION.

An effort was made at the recent State Fruit Growers' Convention at Marysville to hold the next convention in Southern California. Riverside promptly got busy and is proposing to capture the honor. In case Riverside should be chosen, the convention will doubtless take the nature of a citrus meeting. This would have several advantages. First it would greatly benefit Riverside and the whole citrus industry, it would give the northern members who attend an idea of citrus conditions in the south. The State convention is usually held in the northern end of the State, and should, for the benefit of the growers in the north, as well as those in the south, be held in the southern end occasionally.

Another advantage to the citrus industry would be that the State Horticultural Commissioners could print the complete proceedings, which would give a fund of citrus information which is greatly needed in this State at this time. It is a long time since there has been given a publication touching upon our greatest fruit industry.

By all means give us a great State convention which shall be along citrus lines.

LIVED ON $10 A MONTH.

Talking with a farmer who has lived in California for a quarter of a century, about what a family of four persons can live on, where they own ten acres, he said: "I was here in '93 when we had a real panic, not a make-believe, such as we have seen recently, and I had a wife and two small children. I lived at a cash expense of $10 a month. My orchard was young so I planted my garden between the rows of trees and cultivated it without injury to the trees. I had two cows that furnished me with all the milk and butter we needed, and my garden raised all the vegetables for the family. Fifty hens kept us in eggs and we sold enough out of the excess of butter and eggs to pay most of our grocery bill, flour included. About all the money I spent was for clothes, and taxes, for our chickens and pigs supplied us with meat. We had no doctor's bill and I repaired my farm machinery myself, and we never were more comfortable than during the years we lived on $10 a month."

The point in this individual case is, that the farmer raised almost everything he required; he had three acres in alfalfa, and it kept his cows and pigs and one horse, which did the work on the ten acres. He did not hire help on his place, nor did he spend much time in town, he simply toiled and managed, and today is one of the most prosperous growers in Orange county. The moral of this incident is that the small farmer should raise everything he needs to eat except groceries, and this he can do if he puts in the right kind of crops and keeps cows, hogs and poultry. One cow is not much good on a farm, for every cow has or ought to have a dry season. Two cows, therefore, should be kept and they will not only provide food for the family, but there will be surplus butter to sell and skim milk for the pigs. An acre of alfalfa, well cultivated and attended to, will produce four tons of hay during the year, which will give a daily ration of twenty-two pounds. Three acres with the assistance of other crops will later on keep two cows and a horse and one horse will do the work on a ten-acre place.

THE CULTIVATOR GROWING.

While some of our best exchanges have been forced to reduce the size of their publications, others to change to a monthly, and still others to abandon the field altogether, the Cultivator has found it profitable to run extra editions devoted to special topics, with from one to two thousand additional circulation. In short, the last year has witnessed big growth in subscribers and advertising patronage, and in that time, the months of November, December and January, have proven the best of the year.

J. O. of Princeton says:

"I find it well nigh impossible to get along without the **CULTIVATOR** and enclose $1.00 for next year."

J. A. D., Highlands, says:

"We find many helps in your paper and don't feel that we can afford to be without it."

Agricultural Notes of the Pacific Coast

Northern California

Colusa was still picking tomatoes on the 13th of January.

Butte county will soon claim the largest power line in the world.

Sunset telephone is being extended amongst many of the ranches around Santa Rosa.

A new dairy of over 200 cows has just been established at Bonito in Livermore valley.

The Sacramento river is falling, and is nearly normal again after its recent high water.

Central Canal Company of Glenn county is getting water on its land in fine shape this year.

Members of Glen Ellen Grange held an interesting all-day session at Santa Rosa last week.

Cloverdale fruit is ripening nicely, and a good, fair crop is promised for that section next month.

The output of the coast counties' dairies is increasing every day with the improvement in the feed.

Extensive plantings of almond orchards will be made in the neighborhood of Marysville this season.

Prof. Babcock of the State University, is making an investigation as to fruit tree diseases at Fair Oaks.

It is reported that Luther Burbank has produced a wonderful plum at his experimental gardens near Santa Rosa.

Instead of filling, as is usually the case at this time of the year, Tule Lake, Yreka, is lowering at the rate of one inch every two weeks.

The report of the secretary of the Farmers' Mutual Fire Insurance of Yolo county shows total risks amounting to $202,298. The company has sustained no losses during the past year and is entirely free from debt.

The Santa Rosa grange installed the following officers: H. S. Stone, master; H. N. N. Latimer, overseer; C. E. Wingate, lecturer; Mrs. H. S. Stone, chaplain; Miss Fannie Gamble, secretary; John Strong, treasurer; Harvey Gregory, steward; C. A. Williams, assistant steward; George Smith, gatekeeper; Mrs. Charles Gillett, Ceres; Mrs. A. Kettlewell, Pomona; Miss Judith Coulter, Flora; Mrs. John Strong, lady assistant steward.

Sacremento Grange No. 12 has installed as officers for the coming year: Worthy master, Joseph Holmes; overseer, J. H. Beach; lecturer, Alice Madinson; steward, Edward Booth; assistant steward, C. E. Reeze; chaplain, Mrs. C. E. Reese; treasurer, D. Flint; secretary, Lillie M. Orr; gatekeeper, Mark Hunt; Pomona, S. F. Ingham; Flora, S. S. Slawson; Ceres, Carrie R. Holmes; lady assistant steward, Mamie Sanford; pianist, Mabel Holmes.

The Pomona Grange of Sacramento county recently installed the following officers: Worthy master, Geo. W. Hack; overseer, George Schlmeyer; lecturer, Sylvia Fitzgerald; steward, F. W. Bush; assistant steward, Geo. A. Biggs; chaplain, Katie C. Jackson; treasurer, Daniel Flint; secretary, Joseph Holmes; gatekeeper, H. Muddox; Pomona, Etta Cornell; Flora, Grace McDonnell; Ceres, Berdina Hack; lady assistant steward, Alice Madinson; pianist, Macey M. Bush.

Central California

Tulare Farmers' Institute was held last Monday.

The rainfall at Exeter for this season amounts to 2.56.

Delona ranchers are busily engaged in planting grain.

Cantaloupe buyers are making propositions to Turlock-Modesto farmers.

Leonard Day has been appointed county fruit inspector for San Benito county.

Tulare county's 2500 cars of Washington navels have mostly been shipped.

Ranchers at Oakdale east of Tulare are having a mutual telephone line installed.

The Kings county stock growers have found the past season one of great profit.

Beekeepers at Gilroy report that the industry has proved very profitable in that section.

Visalia's rainfall up to the present amounts to 3.82, which is just about half that of last year.

The people of Porterville have voted to issue $50,000 bonds for developing a water system.

Lindsay is boasting of ripe tomatoes marketed in January, and grown in the open without protection.

The Linden Grange at Cupertino installed officers on the 10th and closed with a delightful banquet.

The whole San Joaquin valley was visited by a fine rain last week, in some sections over an inch falling.

Clovis will hold a farmers' institute on January 27th, and a strong committee is at work on preliminaries.

The last rainfall at Salinas was practically an inch, and has placed the beet fields in excellent condition for planting.

F. H. Wilson and others have brought tracts of land in Fresno county along the foothills and will plant oranges.

The bed of the Kings river at Laton is being cleared of many trees and undergrowth to give easy flow to the waters in time of storm.

Berkeley has organized a juvenile horticultural society, the membership of which are children willing to take up a series of planting experiments.

A writer from Honolulu says that the Tulare county oranges sold in that market at fairly good prices and received many compliments of their fine quality.

The horticultural fund in Santa Cruz county is only $1500, which, when divided into its various budgets, will leave only a slight fund at the disposal of any one department.

Articles af incorporation for the Mysa Land & Cattle Company were filed in the Monterey county clerk's office last week. The principal business will be the breeding and selling of live stock.

The farmers at Wasco gave a rabbit drive last Saturday under the management of the Improvement Club. Over 200 rabbits were killed and sold, the proceeds to be given to the Women's Improvement Club.

Southern California

Anaheim is asking for a fruit cannery.

Orange county has 3000 acres of alfalfa.

There will be about 700 carloads of cabbage shipped this year.

Covina's Farmers' Club held an interesting meeting last Saturday.

Riverside has planted 5000 shade trees during the last two years.

Redlands has shipped something over 700 cars of oranges to date.

Whittier and surrounding county has a total of 1000 acres of cabbage.

Southern California produces $2,000,000 worth of dried fruits each year.

San Bernardino has a rainfall to date of 4.33 inches as against 14.19 in 1907.

Large plantings of citrus trees will be made in the Imperial valley this season.

Shipments of California oranges now going forward amount to 100 cars daily.

Santa Ana is shipping 50 sacks of sweet potatoes daily to the Los Angeles market.

Many seedling walnut groves in Southern California will be grafted during the spring.

Southern California canners are in the East arranging for next year's canned fruit output.

Ten carloads of cattle were shipped into Chino last week to be fattened on sugar beet silage.

Cantaloupe men in the Imperial valley are plowing their land the second time preparatory to early planting.

The Kingsbury marmalade factory at Redlands is working up a large quantity of cull oranges into a high priced product.

G. Harold Powell will make another series of investigations this year in the shipping of oranges and the cause of decay.

Highland had trouble with her Japanese labor until forbearance ceased to be a virtue, and she has expelled the entire bunch.

The Gage Irrigating Canal Company recently elected the following officers: C. E. Rumsey, James Mills, C. H. Low, R. M. Ivring.

It is rumored that the effort to have the government control the Imperial irrigation project has fallen through for want of funds.

Orange packing houses have slowed down somewhat, owing to the lighter demand for oranges. The shipments are about 100 cars per day.

Colton is expecting the early construction of a $300,000 icing plant, which will fill refrigerated cars of oranges prior to their long trip East.

The Riverside Enterprise says that the new winter vegetable chayote will prove a winner in the winter vegetable market in the early future.

Forest officials will not allow uninspected cattle to graze on the Trabuco Reserve, and it is required that all stock grazing there shall be dipped.

The Packers' Supply Company at Redlands which is pushing the manufacture of pulp board boxes, are continually extending their factory and are now adding large supplies of new machinery almost daily.

The Coast

The Inland Threshers' Association met at Spokane last week.

Moscow, Idaho, will hold a farmers' institute January 27th to February 3d.

Montana reports a bright outlook for the wool growers the coming season.

The Great Falls, Montana, Poultry Assoniation is holding its show this week.

Coyotes recently killed 47 head of sheep on one ranch at Wilson Creek, Washington.

The State horticultural meeting of Oregon was held last week in the city of Portland.

The Walla Walla, Washington, Poultry Association is holding its annual show this week.

The 13th annual show of the Oregon Poultry Association occurred last week in Portland.

Winona, Washington, which ten years ago was a desert, will ship this year 325,000 bushels of wheat.

The third annual Wheat Growers' Convention was held in Pullman, Washington, January 9th and 10th.

The annual meeting of the Washington State Horticultural Association will be held at Walla Walla January 29, 30, 31.

The first importation of live poultry in several years was received at Spokane last week.

Dallas, Oregon, fruit men are making a pull for a cannery of that place to handle the surplus fruit.

The Fruit Growers' Association of Columbia county, Washington, held a meeting at Dayton last week.

The State chemist of Washington is visiting various condenseries and making chemical analyses of the milk.

A tree grower at Portland, Oregon, is growing some cedars of Lebanon, the seed of which is received from the Holy Land.

The president has just signed a proclamation creating the Verde National Forest in Arizona. It will contain 721,780 acres.

The farmers at the institute held at Monmouth, Oregon, took a greater interest in the horticultural subjects presented than ever before.

At a wheat growers' congress at Waitsburg, Washington, the question of sacks was thoroughly discussed in a "sack day" feature of the program.

Walla Walla stock growers have formed an auxiliary to the Washington State Growers' Association. This is the first auxiliary formed in the State.

Tests are being made at Klamath basin to determine the adaptability of that section to sugar beet culture. It has been found to be a very successful test.

The Spokesman Review says that there are wheat farmers near Spokane who lavish as much affection on their families as they do upon blooded live stock.

North Yakima sheep growers are pressing for permits to gaze their sheep in the Ranier Reserve. The sheep on this reserve have been reduced during the last two years so that instead of a quarter of a million there are about 60,000 grazing there now.

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Seeds of all standard varieties. All kinds of Flower, Garden Tree and Palm Seed. Ornamental Trees, Roses and Flowering Plants.
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20 varieties in cans and flats. Also a fine stock of **Acacias**, 12 varieties.
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A full assortment of everything for the garden or ranch for the coming season. We can fill orders in large or small quantities, and guarantee satisfaction. Our free price list will be ready soon. Send your name in for one Do it now.
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$1.00 per. doz. postpaid.
Closing Out Sale. 2 yr. old field-grown plants. Send for list.
Cedro Nursery, Gilroy, Cal.

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GROWERS AND IMPORTERS OF
Grass, Vegetable & Flower Seeds
All Kinds of Bulbs and Onion Sets
609 J Street Sacramento, Cal.
Send for Catalogue. Please mention Cultivator

California Horticulturally

PEACH PLANTING ADVICE.

ACTIVE work in orchard planting has commenced and, as has been the case for several years past, the peach is far and away the favorite fruit. There has been a peach boom in this State for the past three or four years and nurserymen have not been able to fill their orders. There have been unusually heavy importations of Eastern peach trees to meet this demand, which does not seem to lessen. There will be more peaches, chiefly canning varieties, planted during the present season than ever before, and probably more than all other varieties together. Next in favor are table grapes, and the acreage of both these fruits in the State is going to be very largely increased this season. Already heavy importations of Eastern stock are coming in and nearly all are peaches.

A PROSPEROUS YEAR FOR FARMERS.

The fruit growers and farmers have balanced their books for the past year and reports are coming in from all parts of the State giving returns, and these generally show a balance on the right side for the producer. In most cases field crops have been reported as better than average, in few cases below; with fruit, the growers generally report satisfaction. Apricots have been a failure, at least the crop was so light that it may be so accounted; with most other fruits there was a shortage in yield, but the prices received have fully compensated for that, and growers have done better than for some years past. While this is true of the past, the prospects for the future are even more promising. The elimination of the private car line system with its ruinous rebates and the control of the Eastern markets in the interest of one firm, has done very much to brighten the prospects of the California fruit grower. In bringing about this condition, the Southern Pacific Railroad has gone to an enormous expense in providing its own cars for the California fruit trade. These are of the most modern pattern and fitted with all known appliances for careful transportation of fruit. In addition to this, the company is erecting pre-cooling plants at all the important fruit shipping points, in order that fruit may be started on its overland journey in the best possible condition. One of these new plants now under way at Roseville, the chief fruit shipping point in Northern California, will have a capacity for cooling 500 cars daily. With private cars out of the running, all fruit pre-cooled, and good refrigerating conditions, there is but one thing needed to bring the millennium to the fruit growers of California and that is, expedited service on schedule time, and this we may hope for soon.

THE FRUIT SULPHURING PROBLEM.

The question of sulphuring our dried fruits is once more attracting attention from the fact that the government chemist has declared against this process and, under the ruling of the pure food act it is declared illegal.

The amount of sulphur taken into the human stomach in dried fruit is so infinitesimal that it could not probably do any damage, while without it, dried fruit would lose much of its attractive qualities. Sulphur not alone whitens the fruit, but it destroys all insect eggs that may have been deposited on it, closes the pores and enhances the keeping qualities of the fruit; it prevents evaporation, and sulphured fruit will keep longer and in better condition than that which has not been treated. Unsulphured fruit is dark colored, uninviting, and soon becomes infested with insects and is so rendered unusuable. There are so many advantages in favor of sulphuring and so few against it, that it would not seem difficult to have the Department of Agriculture allow it within reasonable restrictions. Secretary Wilson, when in California last fall, was confronted with this problem and promised then that no action should be taken against the use of sulphur last season, but it is now time to secure a permanent ruling in regard to it. The State Board of Trade and the Commission of Horticulture are moving in the matter and it is hoped that much of the stringency of the ruling may be relaxed.

CONTROLLING THE WHITE FLY.

The White Fly scare seems to be somewhat subsiding, as we get better acquainted with the pest. It is still with us, but the precautions which have been taken against it and its spread, give every assurance that it will be kept within reasonable bounds, if indeed, it is not exterminated, and that now that we know of its existence and the danger to be met, it will be controlled and little fear of its spread need be entertained.

A VALUABLE PUBLICATION.

The university has just issued a very interesting and valuable bulletin compiled by H. J. Quayle, entitled "Insects Injurious to the Vine in California." The work deals with all the various pests which are the bane of the viticulturist's existence, and gives the methods of handling them. It is very comprehensive and a valuable addition to the literature on that subject.

PEAR BLIGHT STILL WITH US.

Pear blight seems to have got the best of the fight, and those who have carried on the most strenuous fight against it have almost given up in despair, and unless some unforseen act of providence interferes, it now seems that the pear industry of California is doomed. Pear blight can be controlled; that has been demonstrated, but for this purpose skilled labor and constant watchfulness and unanimity of action are required. If everybody in a pear growing section knew just how to work and everybody worked intelligently together, then there might be some hope from artificial remedies. Professor Waite with his force of experts has been able to do the work, but Japanese, Chinamen and the average white worker in the orchard have not the training or ability of these professors and will not do the work, and so the blight spreads in spite of our best efforts. It may be that some day some counter-action will take place which will check the spread of the disease—it will run its course as some say—and we may grow pears again, but at the present time the outlook is not encouraging.

Send for this Catalogue
Of Northern Grown Seeds—Tried and proved Best for the West. Contains 112 pages and 16 colored photos of Farm, Field and Flower Seeds with full cultural directions. A request will bring it to your home free.
Chas. H. Lilly Co., Seattle, Wn.
LILLY'S BEST SEEDS
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An Assured 7% Profit
We offer you Cane Sugar Lands in Mexico. Perfect title. Give 50-year contract to cultivate for you, guaranteeing 7%, paid semi-annually, until crop profit exceeds this amount. Offer these lands for cash or on easy terms.
You Are Buying Land of Liberal Earning Capacity.
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Good, Live Agents Can Make Big Money Representing Us
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Loganberries,
Blackberries—Mammoth and Himalaya.
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Hop Roots,
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Quote lowest price per thousand.
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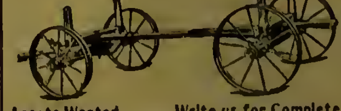

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3¼ x 10 Skeins
28 & 30" Wheels
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CRIMSON WINTER RHUBARB
$1.50 per dozen; $6 per 100; $40 per 1000. Plant now and get returns next winter. Pedigreed plants only.
J. B. Wagner
The Rhubarb Specialist Pasadena Cal

Burbank Crimson Winte Rhubarb
Plants and Seed for sale in any quantity. Warranted the genuine article. Orders filled promptl
A. L. Fratt, Ventura, Cal.

Last week saw the heaviest precipitation of rain in a short time in th history of Southern California.

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

SOME POULTRYMEN MAKE MONEY.

WE received a letter which we give below. The writer has some erroneous ideas in reard to poultry culture. He thinks ily a favorite few are making oney out of the chicken business. hese few are the ones writing artiés for the papers and the fancy reeder that can induce the sucker part with his money for fancy ock. In part the letter is:

he Grouch.

Honestly, don't you think there is good deal of humbug about this hicken business, I mean the fact of uying all of your feed, keeping the ens yarded, and expect to get your ioney back selling eggs and chickns at market prices. Is it not true iat the only ones getting any ioney are the ones who are writing rticles for the papers or those who an induce simpletons to part with 5.00 to $25.00 for a setting of eggs, r succeed in selling stock for $5.00 $25.00 a head? When down atending the poultry show at Los Aneles in December I saw in a poulry journal that some paid $7000 or 11 chickens; probably the buyer eceived back $6795 for luck. Tricks n all trades.—W. T. K., Santa Ana, al.

Now, we wish to make a few more omments upon this worthy epistle, for ve wish to correct, at least, two oints in Mr. K's mind. The first, hat the ones who are writing artiles for the paper are not the only ones who are getting the cream of he business. We will frankly admit hat we are able to buy a business lock each month on Broadway from evenues that we receive from our writing, but there are others.

As for the man who is selling breeding stock and eggs for setting at fancy prices, we will admit that there are some in the business that are making money out of this particular line, and we are glad of it, and are sure that as long as they correctly and honestly conduct their business on business principles, they will continue to make money. The backbone of the poultry industry is the fancy; take away the fancy and the business will surely be less profitable for the painstaking breeder who has raised the standard and been an encouragment to the commercial poultryman.

We don't class those who buy eggs and stock at fancy prices "simpletons" or "suckers," for if the reader will look back into the matter further he will see that the best and most progressive business men of today pay the highest prices for breeding stock, and any one who has the goods can land the orders. If any one is in doubt, let them produce the stock and they will find a ready market at a good price. As to the fabulous prices mentioned we know nothing, but, of course, there is reason in all things. But good stock costs money to produce and will always command fair returns.

Practical Side.

As to the practical side of the question, we publish herewith a letter from Mr. Hyatt, of Petaluma. It was not written for publication, but we are sure that Mr. K. will see it is not a hot air proposition.

I am in receipt of a copy of the California Cultivator, and I believe I am a fortunate party to win the beautiful cup presented by you for best White Leghorns in novice class, competing at the last show at Petaluma. I thank you for the interest you have shown in our association, and I trust you will note a growing interest in the Cultivator as it is known among us, and I will take special interest in introducing it among the poultrymen of this district. This was my first attempt in the show room, although for fifteen years I have been in the poultry business, with nothing else as a business; have made a speciality of fine eggs for hatching purposes in large lots, having sold as high as 7552 dozen eggs in one year for hatchings, S. C. W. Leghorns exclusively. As I was born and raised on the farm, I naturally think there is no place like home and no home like the old home on the farm, and I soon learned that poultry paid the best returns for money and time invested; the soil each year grew richer and produced more. I can look back and see I made no mistake when I took up the poultry business —R. M. Hyatt, Petaluma.

* * *

AROUND THE YARDS.

We have received a number of inquiries for a balanced ration, and as all send practically the same list of grains, we publish only one formula for all. We give, however, a whole grain and a ground ration.

The inquiries come from W. W. Whitehead, Santa Ana; Miss Maud Leach, Porterville; Mrs. J. C. Housey, Oroville and J. B. Lawyer, South Pasadena.

Whole Grain.

To be fed in litter or in troughs not to be kept before laying hens.

Forty pounds wheat, 15 pounds oats, 10 pounds barley, 20 pounds Egyptian corn, 10 pounds cracked corn, 1 pound charcoal; to this might be added 10 pounds coarse beef scrap.

Ground Feed.

To be fed in hoppers:

Forty pounds bran, 20 pounds middlings, 15 pounds feedmeal, 7½ pounds beef scraps. This fed in hoppers, with grit and charcoal constantly before them, will give excellent results.

It is also a good idea to feed a good tonic at intervals in limited quantities.

* * *

Canker.

I have a Leghorn hen that has a lump of hard, yellow substance around her tongue and in her throat. It smells very bad. It can't eat very well. Would like to know the cause and cure. Also an old cock similarly troubled died suddenly.—A Subscriber.

Your hen has canker. Clean off white substance well and put eucalyp-

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:

"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

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CROLEY'S Meat Scraps Meat Scraps

No Hair **$300 per Sack** No Hoofs

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Croley's Green Bone, $2.50 per Sack

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EGGS FOR HATCHING

All Eggs are from good, strong vigorous stock.

WYATT & WOLLITZ, Proprietors

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**Single Comb Buff Orpingtons
White Rocks and
Indian Runner Ducks**

Orpington and Rocks $2 per setting; $6 per 100.
Duck Eggs $1.50 per 12.

Write your wants. Correspondence carefully answered.

Box 298. WYATT & WOLLITZ, Corona, Cal.

Excelsior Egg Food

The food to feed when you want eggs. None other just as good.

Excelsior Chick Food

Will raise more chicks than any other food on the market. To try it means you will use no ohter. If your dealer can't supply you, write us.

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Chamberlain's Perfect Chick Feed

World's Chick Feed of To-Day. The only original **Dry Chick Feed.** All others are worthless imitations. **Chamberlain's Perfect Chick Feed** was used exclusively at the great St. Louis World's Fair during the 7 months. This is the highest compliment paid to any manufacturer of poultry food in the world. Perfect Chick Feed also endorsed by the U. S. Experimental Station and the Columbia School of Poultry Culture. All the leading poultry men of the country use Chamberlain's Perfect Chick Feed on its merits.

NOTHING JUST AS GOOD.

GERMAIN SEED CO.,

Pacific Coast Agents. LOS ANGELES, CALA.

SPECIAL PRICES ON TON LOTS.

EL ORO POULTRY FARM
H. H. HOLLAND, Prop.
ORANGE and BUTLER AVES., FRESNO, CAL.

Won 5 Firsts, 2 Seconds, 1 Third, 2 Fourth Ribbons from 20 Entries at Fresno Show. Breeding now

Bronze Turkeys, Barred Rocks
Brown and White Leghorns
Blue Andalusians and Black Minorcas

A bargain in Brown and White Leghorn Cockerels, Bronze Gobblers, Blue Andalusian and Black Minorca Hens. One pair Buff Leghorns.

Eggs at $1.00, $2.00 and $3.00 per Setting

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You Were Hatching
Have Just Received
Two Car Loads
Cypher's "Model"
INCUBATORS and BROODERS

GROUND CHILI PEPPER—10c per pound, $7.50 per 100 lbs. HOT STUFF.

Henry Albers Co., 534 So. Main, Los Angeles

S. C. Black Orpington Cockerel
2 Prizes, Los Angeles, 1907

Holmby Poultry Farm
Eggs from imported prize winning
S. C. Black and Buff Orpingtons
From $1.50 to $15 per setting. A good pen of White Orpingtons for sale for $25. Write for descriptive Circular.
Holmby Poultry Farm
Arthur Letts, Prop. E. B. Coleman, Mgr.
Hollywood, Cal.

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GUARANTEED ANALYSIS:
Protein 65%
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Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps. No fertilizer ingredients in these Beef Scraps.

GUARANTEED ANALYSIS:
Protein 25%
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Made of Clean Beef Bones, surplus fat removed. Cleanest Raw Bone on the Market.

Pure, Clean Animal Matter Poultry Foods
WESTERN MEAT COMPANY SOUTH SAN FRANCISCO CALIFORNIA

Doke Chick Feed is The Pioneer Chick Feed
A Balanced ration made of pure grains (cracked), Seeds, Beef Scrap Charcoal. No grit no waste or bowel trouble in feeding this feed.
Will send freight prepaid to any address for $3.50 per 100 lbs. Arizona points 50c extra.
Pioneer Hatchery 711 South Main Los Angeles, Cal.

The La Habra ostrich farm east of Fullerton has 180 acres of land with all necessary equipment for care of the birds. There are now 500 birds on the place.

The recent fall of from one-half to over one inch of rain over Southern California did a world of good, especially to grain crops which had begun to suffer severely.

tus oil and cover well with flour of sulphur. Or if you have a good, well-known roup remedy, apply as per directions until cured. Your cock probably had canker of the windpipe, which is very hard to do anything with. We would look for cause and remove. There are a number of good roup remedies advertised in these columns; get one and use according to directions till all symptoms of disease disappear.

Hatching Geese Eggs.

When is the proper time to hatch geese eggs, and is it advisable to have them hatched by a large hen?—J. K. G., Eden Vale.

Set your eggs when you have them. As a rule, geese only lay in the spring.

Sultans.

Will you please tell me through the Cultivator where I can get Sultan and Partridge Cochin eggs? I think the Sultans are generally classed with the Polish stock of chickens.—Ethan Mathis, Plano.

Will some of our readers that have the above breeds write Mr. Mathis or send names to this office and we will forward to him.

Open Front House.

In building an open front house (the front facing the south) for laying hens, having shed roof, is it advisable to have the back of the house higher than the front? Are continuous houses for laying hens, say from 150 to 300 feet long, useful in California? —Guy B., Upland.

Make front of house higher than back, so sun will shine in and keep thoroughly dry during wet season. To keep out rain you can use a burlap curtain, which can be rolled up in fair weather.

We never advise houses 150 to 300 feet long, as there will be a draft unless there are tight partitions at regular intervals to prevent. Aside from this the continuous houses are all right.

POMONA SHOW.

The first annual show of the Pomona Poultry Association was held in Pomona last week under the management of C. C. McKey. Mr. McKey informs us that the numbers of entries would have been much larger had there been more room. He had to return birds as it was impossible to coop them.

The show was held in the Co-operative building on Second street, and was packed like a street car returning from the beach. Even the gallery had to be utilized in cooping birds.

The quality of many birds was as good as is found at larger shows, while the attendance was all that could be expected. The judging was done by Frank H. Thomas of Los Angeles and S. Tyler of Pasadena; the ribbons were up by Monday at 2:30 p. m. when the doors were opened to the public.

As a whole, the show was a credit to the industry and will do much in encouraging, stimulating and educating the fanciers.

Awards.

BARRED ROCKS—Pomona Poultry Supply Co., 1 on pen, pul, ckl, hen; 2 on pen, pul, ckl, hen; 3 on hen; 4 on pul and hen. E. W. Mocham, Pomona, 3, pen; 2 ckl. R. J. Stewart, Chino, 3, pul; 4, ckl. F. Slankor, Pomona, 3, ckl. H. E. Colsson, Pomona, 1, ckl; 3, ckl; 4, pen; 5, pul. G. W. Cobb, Pomona, 4 ckl.

WHITE ROCKS—Arthur J. Little, Monrovia, 1, ckl, ck, hen, pul, pen; 2, ck, ckl, hen, pul, pen; 3, ck, ckl, hen, pul; 4, hen; 5, hen. Pomona Poultry Supply Co., 3, pen; 4, pul, ckl; 5, pul, ckl. Paul Flemming, Claremont, 4, 5, ckl.

WHITE WYANDOTTES—M. E. Dillingham, San Gabriel, , ck, pul, ckl, hen; 2, ck, ckl, hen; 3, pul. H. Frieshmann, Pomona, 2, pul; 3, ckl; 5, pul. Mrs. . F. Thomas, Pomona, 3, ck.

BUFF WYANDOTTES—M. E. Dillingham, San Gabriel, 1, ck, ckl, hen, pul, pen; 2, pul.

R. I. REDS—T. E. Mills, Lordsburg, 1, ckl,

Imported Aylesbury Duck
Winners at Crystal Palace an leading shows in England.
Also at the State Fair, San Jos and Oakland, 1906.
Also State Fair and San Jose, 1907.
Stock for sale and Eggs in season.
Vincent G. Huntley
Petaluma, Califor
Also Breeder of Buff and Black Orpington and Barred Plymouth Rocks.

EAST SAN GABRIEL EGG RANCH
S. C. White Leghorn
Barred P. Rocks
Won on White Leghorns at the Poul Breeders' Association show, Jan. 6-12, 1 4 firsts, 2 seconds; 4 thirds; 1 fourth; 1 fif Also Association cup for highest scoring White Leghorn cockerel. Eggs for hat ing, $1, $1.50 per 13; $5 per 100. Prize w ning pens, $2 per 13. The hens in our bre ing pens are all selected two-year-old he and bred to lay and win.
Swanson & Johnson, San Gabriel, C
San Gabriel Electric to Masonic Home then 2 blocks South.

Do You want the Breed That La
the year around and brings $1.00 each when s to market? Our BUFF ORPINGTONS are that ki Write for show record never equalled on Pacific Coast, Catalogue, and prices.
Mr. and Mrs. W. S. Sullivan
Agnew, Santa Clara Co., C
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Newbert's White Leghorns
Are the best in the State. I proved it at the l State Fair, winning four of the five firsts fr the best breeders in the State. Hatching Eg $6 per hundred, $1.50 and $2.00 per setting.
F. M. Newbert - Palmetto Heig Sacramento, C

WINSLOWS REDS
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Single Comb - Rose Comb
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WINSLOW' REDS The bird f the Farm and Fanci
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White Leghorns Buff Orpingto
Black Minorcas
Partridge Wyandottes
Fresno Poultry Show, 1907, with 20 birds on d play we took 14 prizes, four firsts. Young sto for sale. Eggs in season.
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say you want my fr 124 page Incubator a Brooder book? Mail free. Send now. ready.
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First prizes San Jose '06, and State Fair '07
Three 1sts and special, San Jose, '07.
Three 1sts, three 2nds and $50 Cup best disp Petaluma '07.
Send for free '08 Catalogue and price list.
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Eggs from special standard matings, $2 per setting. From good utility stock, $5 per 100.
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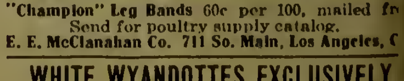

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Send for poultry supply catalog.
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Good, White, Typical Birds. Stock and Eggs For S
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White Wyandottes (Hubbard Stock
Hens, Pullets, Cocks, and Cockerels for sale. Prices reasonable
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The World's best layers. Our folder for '07 is ready. Drop a postal to
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Over-fat and lazy fowls—always ready to eat, never ready to lay—take the profits out of your hen business. Put such by themselves, reduce the feed a few days, and then begin the use of Dr. Hess Poultry Pan-a-ce-a once a day. This course will soon turn robber hens into profit-paying fowls.

DR. HESS
Poultry PAN-A-CE-A

is the prescription of Dr. Hess (M.D., D.V.S.) himself an expert poultryman, and was formulated with the express purpose of providing something to strengthen the fowls' digestion and *compel* the largest possible assimilation of nutriment. That it does this is the testimony of poultry men in all the United States and Canada. It holds bitter tonics, iron for the blood and cleansing nitrates to purify the system. Makes laying a habit and helps young chicks grow fast. It is also a great preventive of disease. Costs but a penny a day for 30 fowls.

Sold on a written guarantee,
1½ lbs. 35c; 5 lbs. 85c;
12 lbs. $1.75; 25 lb. pail $3.50
Send 2c for Dr. Hess 48-page Poultry Book, free.

DR. HESS & CLARK, Ashland, Ohio.
THE PETALUMA INCUBATOR CO.,
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Pacific Coast
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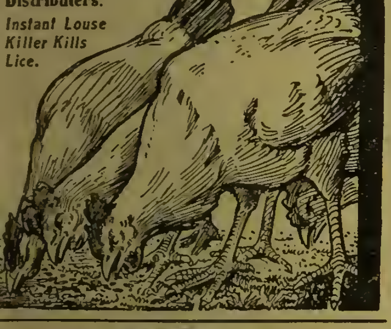
Instant Louse Killer Kills Lice.



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Spargur's Trap-Nested
White Leghorns

ggs $1.50 per 15, $7.00 per 100. I. R.
ıck Eggs, $1.00 per 13, $5.00 per 100.

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Stock and Eggs in season
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pul, hen; 2, ckl, pul, hen; 4, ckl. S. J. Bromley, Pomona, 1, ck; 3, ckl; 5, ckl. Pomona Poultry and Supply Co., 1, pen; 2, ck; 3, hen; 5, hen.

LIGHT BRAHMAS—Wm. T. Blakely, S. Pasadena, all awards.

BUFF ORPINGTONS—S. J. Bromley, Pomona, 1, ckl, hen, pul; 2, hen, pen, pul, ckl; 3, pul, hen; 4, pul, hen; 5, hen. E. T. Palmer, 1, pen; 3, ckl; 5, pul.

BLACK MINORCAS—Harry E. Rose, Alhambra, 1, ck, ckl, hen, pul, pen; 2, ck, hen. H. A. Wheeler, Lordsburg, 2, ckl, pul; 3 ckl; 4, ckl. Mrs. Vanalstine, Pomona, 2, pen. Miss Holden, Pomona, 3, 4, 5, pul; 5, ckl. Miss Becker, Pomona, 3 ckl. D. D. Lee, Pomona, 3, pen.

BROWN LEGHORNS—Mrs. C. H. Vary, Pomona, 1, ckl, pen, hen; 2, ckl, hen; 3, pen; 4, hen; 5, hen. Pomona Poultry Supply Co., 1, ck, pul; 2, pen, pul; 4, ckl, pul; 5, ckl, pul. James Webster, Los Angeles, 3, ckl, hen, pul.

WHITE LEGHORNS—Pomona Poultry Supply Co., 1, ckl, ck, hen, pen; 2, ckl, ck, hen, pen, pul; 3, ckl, pul, hen, ck; 4, hen; 5, hen. E. W. Mecham, Pomona, 2, ck. Wm. Hunter, San Fernando, 1, pul; 2, ckl.

S. C. BUFF LEGHORNS—Mrs. Varner, Pomona, 1. hen, ck; 2, hen, ck. Wm. Hunter, San Fernando, 1, ckl, 3, pul. Mrs. Warner, Pomona, 1, pen; 2, ckl. Mrs. W. E. Jones, Chino, 1, pul; 2, pul; 3, ckl.

R. C. BUFF LEGHORNS—Mr. Corwin, Pomona, all awards.

ENGLISH RED CAPS—Wm. T. Blakely, S. Pasadena, 1, ckl, pul, hen; 2, ck. P. J. Curran, Pomona, 1, ck; 2, 3, 4, hen.

PEA COMB BUCKEYES—All awards, Mrs. B. Tyler, Uplands.

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SILVER PENCILED WYANDOTTES—Mrs. F. Schwan, all awards.

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BLACK BREASTED RED GAME BANTAMS—Geo. Slanker, Pomona, all awards.

GOLDEN SEBRIGHT BANTAMS—M. E. Dillingham, San Gabriel, 1, ck, hen, pul; 2, pul, ckl, ck, hen; 3, hen, ckl, pul. Arthur Little, Monrovia, 1, ckl.

SILVER RUNT PIGEONS—M. E. Dillingham, San Gabriel, all awards.

BLACK HOMER—W. Smith, Pomona, 1, ck.

SILVER HOMER—O. Williams, Pomona, 1, ck.

Special Premiums.

Pomona Board of Trade cup, hest display one breed, won by A. J. Little, Monrovia.

Harris Bro.'s cup, for best display of Brown Leghorns, won by Mrs. C. H. Vary, Pomona.

Wright Bros. & Rice cup for the best bird in the Asiatic, won by Wm. Blakely, S. Pasadena.

The Opera House cup given for the best Wyandottes in the show, won by M. E. Dillingham, San Gabriel.

The Witman cup for the best Black Minorca in the show, won by Harry E. Rose, Alhambra.

The Curran Bros. cup for the best pen in the American class, won by A. J. Little, Monrovia.

Weigle cup for the best pen of Barred Rocks, won by Pomona Poultry & Supply Company, Pomona.

Poultry Medal for the best bantam in the show, won by M. E. Dillingham, San Gabriel

Star cup given by Lecoz & Curtis for the best pen of White Rocks, won by A. J. Little, Monrovia.

John Beck cup for the best display of White Leghorns, won by the Pomona Poultry & Supply Company, Pomona.

The Wilkinson Carving Set for the pest pen in the Mediterranean class, won by Harry E. Rose, Alhambra.

The Association Cups.

Barred Rock Cup by Pomona Poultry & Supply Company, Pomona.

White Rock cup, Arthur J. Little, Monrovia.

Black Minorca cup, Harry E. Rose, Alhambra.

Brown Leghorn cup, Mrs. C. H. Vary, Pomona.

White Leghorn cup, Pomona Poultry & Supplly Company, Pomona.

Golden Sehright Bantam cup, M. E. Dillingham, San Gabriel.

Light Brahma cup, Wm. Blakely, South Pasadena.

Buff Orpington cup, S. J. Bromley.

Rhode Island Red, T. E. Mills, Lordsburg.

THE SAN DIEGO SHOW.

San Diego Poultry Association gave a very successful show this year. Not only was the show a success in numbers and quality of the birds shown, but Secreary Stiles informs us that financially the show is a winner. The boys at San Diego have been up against a hard run of luck for the past few years and we are glad to hear that they are getting on the sunnyside of the street.

We had wanted to get a full report of the winnings of the show, but they did not reach this office until January 2, 1908, after we had our paper for the issue of January 9th in type so were unable to give same until it was too late for them to be news. We hope to receive reports earlier next time as the Cultivator is always willing and anxious to give full reports of California shows when we can get them.

An Imperial farmer who paid $10 per acre 6 years ago has just sold his quarter section for $100 per acre.

Eggs for Hatching

From Carefully selected purebred stock of

White Minorcas White Leghorns
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Ocean Blue Strain

D. T. Wieland, Moneta, Originator

This strain has been bred in line by me for 19 years and never defeated in the show room. For 16 years our pullets have never lost first prize. At the big Chutes' show 1908, we won first and second pullet in a class of thirty, nothing else shown. Eggs $2.00, $3.00 and $5.00 per 15; incubator lots at $8.00 per 100. Eggs now testing fine. We have purchased the best son of the first Chicago pullet, 1907, to head one of our pens. A first prize cockerel heads our cockerel breeding pen. Other pens the same breeding and good ones.

Take short line car at 2nd and Spring Sts., via Gardena; get off at Illinois at Moneta. Right on Ranch.

MISSION VIEW POULTRY RANCH

At the Los Angeles County Poultry Association Show, Dec. 7-14, 1907; White Wyandottes, 1, 2, 4. 5 cks; 1, 2, 3, 4 ckl; 1, 2, 3, 4, 5, hen; 1, 3, 4, 5, pul; 1, 2, 3, 4, 5 Pen; MAMMOTH BRONZE TURKEY—1 adult, 1, 2, 3 yearling; 1, 2 young tom; 1, 2, 3, 4, 5 hen; and 2 on ten pullet pen; 1, 2, 3 pullet.

Out of thirteen possible specials I won ten as follows: The Times cup for best display of White Wyandottes, the Los Angeles Produce Exchange $50.00 silver cup for best display of table fowl, the Henry Albers loving cup for best pen of White Wyandottes, Harper & Reynolds Company's handsome carving set for best display of White Wyandottes, the Superintendent's cup for best display of any one exhibitor of any one breed, a California incubator for best display of turkeys, the Association cup for best White Wyandottes, the National White Wyandotte Club cup for best Wyandottes, all the National Wyandotte Club ribbons for best cock, cockerel, hen and pullet; and in the competition open to ladies only; cut glass vase for hen and ten chicks in a large breed; and cut glass salt and pepper shakers for best bantam hen and five chicks.

I had the largest exhibit of White Wyandottes ever made on the Pacific Coast by any one exhibitor. I raise all my birds and keep forty breeding pens and all my hens are trap-nested.

MRS. C. D. HUBBARD, San Fernando.

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1908 Seed Catalogue 1908

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The Vegetable Garde

PEPPERS.

In answer to a number of questions on raising chilis, Mr. Lobingier gives an excellent short article on chili culture, so we place it in the garden department. The queries have been so popular lately that that department has been overfilled and some questions have been held over from week to week. The questions are:

What are the best varieties (green and dried) peppers for commercial purposes? How sprout seed? How and when transplant in field? How far apart the rows and how far apart in the rows? What kind of soil is best? Should the soil be very moist when plants are set? How much irrigation will crop require; best location; flat or elevated cultivation? Which are the most profitable, the green or the cured product?—M. J. Golden, Los Angeles.

I take it for granted this correspondent refers solely to the chili or hot class of peppers.

Without question the best variety to grow for commercial use is what is known as the Anaheim chili. It is of local origin and will produce more pounds to a given area than any pepper of its class.

In order to get the plants early in the season, it is necessary to use artificial heat in starting the plants, as all of the pepper tribe are more or less tropical plants and the seed will not germinate in a low temperature.

If one has no greenhouse, a hotbed will answer very well. The second week in March is early enough to attempt to start the seeds. I prefer to sow the seeds in shallow boxes that are, say, 15x24 inches and about three inches deep. Fill these with well prepared soil and sow the seeds in rows across the box. The rows can be about two and one-half or three inches apart. When the plants are a couple of inches high they should be transplanted into similar flats or boxes about two inches apart each way and when three or four inches high they can be set into the open field with almost no loss by being careful to take a small square of soil with each plant. Some growers sow the seeds thinly in rows in the hotbed and transplant from there into the open field which seems to the inexperienced as a great saving of labor. But unless the weather conditions are very favorable there will be more or less loss by plants not bearing the shock of transplanting. They are usually set in rows 30 inches apart and the plants about 18 inches in the row. Sandy, or at least a mellow soil is best. The soil should be in good condition when the plants are put into the open field, and should receive an irrigation as soon as set out. It is difficult to give any set rule as to the irrigation without knowing the soil as well as the locality. The plants will need sufficient water to keep them in vigorous, constant growth, and in some soils and some localities an irrigating every couple of weeks might do, while in other cases it would have to be a little oftener. Like all plants of a tropical nature a warm, mellow soil with abundant water and thorough cultivation will bring best results. I should prefer level culture.

As to the way to market them—green or dried—it would depend somewhat on how good a contract you could get from some factory would buy them green. The ret from the dried product is varia More receive less than $100 per a than get a higher figure.

I know of no crop that would benefited more by careful select of seed and skillful growing chili peppers. In passing throug district where they are grown, if observe carefully you will notice about one out of every four or plants will be two or three times size of the plants around it and p duce two or three times the qu tity of peppers. A grower would follow up his work for a ries of years and give special ca selecting the best peppers from best plants for seed, would s work up a strain that would yi four or five times the crops that average grower gets now.

The curing of chili peppers see like a very simple matter, but un one has had some experience might be well to call in the aid some Mexican of the old school assist in the work. Care must had not to pick the ripe pepp when wet either from dew or rain fog. In localities that have dry the curing is somewhat simplifi but if not accessible to a dryer old method of putting them strings and drying in the sun an is usually followed. Many gro erect a frame and cover it shakes—leaving the sides open— hang the strings of peppers u this roof of shakes until they cured.

The class of peppers known "sweet" peppers—such as the R King and the Chinese Giant— somewhat more profitable if you near to a large city that affords good market for them. They are most altogether used in the fresh green state, and as much as $1 has been taken from two acres. T however, is the exception and no vice nor even the expert can hope equal it very often.—Q. A. L.

CONTROLLING NATURE.

Everybody knows that of l years natural forces have been w derfully subjected to man's ne We are dazzled by the spectac achievements in steam and elec city, but are likely to forget the l noisy but no less marvelous conq of animal and plant life.

Horses are swifter, cattle heav cows give more milk and sheep h finer fleeces than in days gone In plants the transformation is e more marked. People now liv can remember when the number edible fruits and vegetables was less than at present, and even t that could be grown were v inferior to what we now have. example, our parents knew not of the tomato except as a cur ornament in the garden. Sweet c was hardlly better than the com est field sorts. All oranges seeds. Celery was little known poor in quality. In the flower the magnificent pansy has rep the insignificant heart's ease, f which it was developed, and sweet pea in all its dainty sple traces its origin to the common den vegetable.

This progress has been made spite of the great tendency mani ed in all plants and animals to back to the original type. It is, deed, a battle to keep strains p and up to the standard they have ready attained, let alone impr ment. The practical results are complished by man operating lar for love of the work, like Lu Burbank in California, and Eck in England, as well as by the g seed merchants D. M. Ferry & of Detroit, Mich., who are not eternally vigilant to hold what gro has been gained, but have a corp trained specialists backed by an means to conduct new experime The results of their experiences be found in their 1908 Seed ann which they will send free to all plicants.

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he Waukena Water Company has n organized at Hanford for the pose of developing water for irrion uses.

Queries and Replies

> Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Budding Old 'Cots.

Can I successfully bud or graft Satsuma plums onto good, thrifty, six-year-old apricot trees? If successful. which would you advise, to bud or graft?—Subscriber, Santa Ana.

Satsuma plums will do well on apricot trees. The best way is to cut the tops off after the fruit is picked in July and bud the sprouts as soon as they get to as large as a lead pencil.

Arbor Grapes.

Kindly advise me what is the best kind of grape vines for an arbor. I have some grapes at Redlands that dry up on the vines. What is the matter with them?—Subscriber, Los Angeles.

There are a number of varieties of grapes good for an arbor. Of the American varieties, Niagara, Concord, Agawam and Worden will make a good collection.

Of the other class, Muscatello fino, Golden Queen, Thomson's Seedless, Muscat and Mission will make a good collection.

Your grapes have mildew and should be sulphured once just after the fruit sets and again in about two weeks.
J. W. M.

Which Grape?

As I have been a subscriber for four years and have got many good pointers from your paper, I want your further advice on the best kind of table grape to put on four acres of the very best of heavy soil. I have six acres of Emperors coming three years old. Part of them are on quite sandy soil and part on good light soil, but as I have not found a man that ever saw any in fruiting, I am a little at a loss whether I had better set the four acres spoken of or put it out to Tokay or Black Cornichon, so I will write to you for advice. My land is two miles west of Highland.—John S. Bates, Highland, Cal.

Plant the remaining four acres to Black Cornichon. This variety does well on heavy soil.—J.W.M.

Myrobalan Root, Etc.

Is Myrobalan a satisfactory stock for the apricot on heavy soil?

Which is the better for orange trees grown on adobe soil, Sour or Trifoliata Root?

Where can lime be obtained cheaply and in quantities sufficient to warrant its use in orchard?
—D. C., Orange.

Your nearest point to get lime, we think, would be the Alamitos Sugar Factory. At one time it could be had at 50 cents per ton, to which you would have to add loading and freight.

Myrobalan is a good root for apricot on heavy soils that are not well drained. Sour stock is the best stock for your soil.

Red Spider on Almond Trees.

Will you kindly tell me what to use and when to use spray for red spider on almond trees? J. R. Holland, Lancaster.

An old and reliable remedy is made as follows: Dissolve thirty pounds of whale oil soap in sixty gallons of water. Then boil three pounds of concentrated lye in two gallons of water and as much sulphur as the liquid will carry without settling to the bottom. Spray it onto the trees hot and it will do the work better. Apply in June and September.

Another remedy that holds the red spider in check but not so efficient as the above, is to apply the sulphur dry and with a seed sower on a wagon.
J. W. M.

A Gopher a Minute.

In the Cultivator of January 2, in "Queries and Replies Dept.," your answer to Mr. W. David's question relating to moles, you say, "but don't let a gopher live a minute." I am sure a goodly number of your readers would be glad for your recipe for getting away with a gopher in a minute; in an early number of the Cultivator. C. D. Calkins, Santa Cruz.

Well, our subscriber comes back at us with a hard one, sure. A gopher a minute would be going some, but we don't know but we pretty nearly reached it once. An old ranch was almost as thickly covered with gopher mounds as a wooly dog with fleas, so that trapping was out of the question. We started out in the morning with a tub of potatoes, two bits' worth of raisins, a bottle of powdered strychnine, and a shovel. The potatoes were quartered, or made smaller in some cases, and in each piece a slit was made in which was inserted a little strychnine on the point of the knife. Or a big fat raisin was split and a very small portion of poison placed in center, then closed together like a sandwich. Gopher holes were opened all day and these poisoned morsels inserted each way in the run, then firmly closed.

Whether that day's work averaged one a minute or more we cannot say. After results showed that the number was greatly reduced by emigration or some kind of epidemic. In a potato patch, or possibly in alfalfa, this treatment might not be so effective.

Trapping is sure but slow and requires a little skill and lots of patience. In the poison treatment, allow no poison to be sprinkled on the outside of the potatoes and do not use too much of the poison.

Grapes and Olives.

Will you kindly inform me how to trim the grapevines I mention here—Black Prince, Purple Damascus, Black Ferrara, Black Morocco and Zinfandel? The vines were rooted cuttings set out last spring. Will cuttings taken from a sucker bear grapes? Will vines trimmed up high be less apt to mildew than those trimmed low? How is the best way to sulphur, by putting the sulphur on the vines or on the ground under the vines? In starting olive cuttings what size stalk or limb is best to use? Subscriber, Yuba City.

Prune Black Prince and Black Ferrara, half long; Purple Damascus, long, and Black Morocco and Zinfandel short. We have seen Black Morocco pruned long and over a trellis, but it requires irrigation then.

Vines trimmed any way will not be free from mildew. The best way to sulphur is to use machines that are on the market. There is a bulletin issued from the Berkeley station that gives results of tests. Apply the sulphur in the top and under the leaves.

Olives are started in a commercial way from herbaceous cuttings of two leaves each, but must be grown under glass. Olive trees may be grown

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We intend to maintain our reputation for selling reliable, strong and pure seeds; also roses and vegetable plants in season; poultry supplies, incubators and brooders, and also thoroughbred

Baby Chicks

Drop in and see if you are not made really welcome and wherever we do any business we intend that you shall depart even more than satisfied, for upon our ability to fulfill our promises and supply your needs depends the continuance of our friendly relations—the real foundation of permanent success.

We shall change this advertisement each week, so if you wish to keep posted, see this space and "Watch Us Grow."

Ask for descriptive matter of our Incubators and Brooders, also list of Seeds and Roses and address

The F. Gilman Taylor Seed Co.
Box 85, Los Angeles, Cal.

SEEDS That Grow Just Sow

Fine, new stock, Northern grown seeds. None better. Low prices for best quality. Send 35c in stamps for trial order of 12 of our 5c packages, your choice, postage paid.

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large stock of the very best goods of all kinds at the lowest prices. Come and see us, or mail your orders; you will be treated right.

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are as good as can be made. Also PACIFIC COMBINATION BROODER. And they are priced right, too. We also make the "BUSINESS" Incubators and Brooders. Just for business and they do it everytime. Hot water heating. Very low prices.

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Is the simplest, strongest, most durable and most up-to-date drill on the market to-day. Is made to last and give satisfaction. Investigate before you purchase.

General Agents

Pacific Implement Co. 131-153 Kansas St. San Francisco, California

Arnott & Co. Los Angeles

from cuttings in the open from sticks the size of a lead pencil to an inch or two in diameter. J. W. M.

Milch Goats.

Since the raid on milch cows and their products my neighbors and myare interested in milk goats, and any information you can give us through the columns of your paper or otherwise will be thankfully received. I would like to hear from parties not interested in sale of stock. I would like to know if goats are subject to tubercolosis and the best breed for milk, the amount they give, length of time they go dry, and especially the best feed if kept confined; also price.

Perhaps you would like to hear of my experience with goats. Thirty-five years ago I was living on an island on the coast of Maine. It was a beautiful island of about 1200 acres largely covered with trees and shrubs natural to the country. I had about 300 sheep that got their living without help, all I had to do was to catch and sheer them once a year.

About this time I read about the Angora goat or Cashmere goat, what a fine, hardy animal it was, with a valuable fleece out of which was made the $1000 cashmere shawls. It set me to thinking. I had been told that every man had one chance in his lifetime to make his fortune and thought perhaps this was mine; so I wrote quite a lengthy letter to the importers of these goats, describing the island, telling about the sheep, etc., and asked what kind of a place it would be for goats. In due course of mail I received quite a lengthy reply praising the goats, telling of their value in clearing land by eating what nothing else would and their fleeces worth a dollar or more per pound, and then said my island would be a "perfect paradise for goats." That capped the climax. I had the goat fever sure, Tongue coated, pulse quick, temperature high! But I read on! The letter closed with "I will sell you a pair of goats for $500, and if you want any extra does will sell them at $200 apiece" I have heard of people being struck by lightning or taking hold of a live wire, but that would not begin with the way that fever left me. I feel it coming on again, but it is in a mild form and will be easily cured—Gilbert Longfellow, Pasadena.

We may be mistaken, but we imagine the milk goat fever may leave the inquirer somewhat as did the other. It seems to be exceedingly hard to get the imported stock, as duties, expressage, and other charges are very great. They may not command $500 a pair, but the cheapest we have heard of were $150 each. The trials of the importer are many and until more of this stock is introduced prices will surely be high. When the offspring of this stock and the better "grades" become plentiful it is probable we may all own goats.

Curing Lemons.

Please inform me through the Cultivator, how to cure and keep lemons through the summer?—Mrs. S. H. B., Reedley.

Lemons may be kept for six or eight months on a commercial scale, by placing them in trays and stacking so as to leave open spaces at one end of the trays, and covering the whole pile with a canvas tent that fits closely to the floor. This is done on a floor with a covering but with open sides. The object is to keep the lemons at an even degree of moisture or dryness. They should not be allowed to sweat or become dry enough to shrink. This is accomplished by raising or lowering the tent according as the lemons show moisture, in which case the tent is raised and when they become dryed off, lower the tent again.

In the case of a few lemons for family use, pick the lemons carefully, not allowing the skin to become bruised in any manner, and lay them away in a picking box in a c place for a week or ten days. If a of them are moist, let them dry and wrap in several thicknesses tough, soft paper and pack snugly a box and place them down cell Examine them carefully now a then and if no mould appears ins of a few weeks, the chances are t you will not be troubled with decay J. W. M.

Sweet and Sour Root.

Will you please tell me throu the Cultivator the difference betw the sour and sweet orange seed plants advertised in the Janu number of your paper? Also g the use of each kind. I shall be v much obliged to you for this inf mation.—Subscriber, Redlands.

The "sweet" orange stock usua designates the seedling plant gro from seed of the California seedl orange, and preferred by many the best stock on which to bud navel or valencia. The "sour" st is a plant grown from seed of wild, bitter or sour fruit grown Florida and some other gulf Sta On moist or heavy soils the la root does better, and is claimed be freer from gum disease. It ma a good stock on which to t Again some growers prefer the melo or grape fruit root on acco of its stronger growth.

A Good List of Table Grapes.

Will you please publish a list the best table grapes and their son of ripening?—G. D. L., Comp

Grapes are divided into three g eral periods as to seasons in wh they ripen. July to August, Sept ber to October and November to cember. Those ripening during first period at Pomona are Ba rossa, (S), Palomino, (L), Blue P uguese, (L), Chasselas Rose, (S), the Sweetwater class, (S).

In the second period are Muscat fino, (HL), Cinsaut, (S), Black voise, (S), Malaga, (HL), Tokay, Muscat, (S), Olivette de Cada (S), Black Prince, (S) and Roso Peru, (S).

In the third period are Verdal, Golden Queen, (L), Cipro N (HL), Black Morocco, (HL) and ple Cornichon, (HL). When th grapes are planted in a viney they will fill up the entire sea and many of them will ripen a the same time. They are all grapes and sell well in the mar The initials after each name i cate how they should be pru long, half long and short. I pruners should be run on trellis not tied to a stake. The trellis give more grapes and the bun will hang free and can be gath without untangling them from stake and thereby spoiling the pearance of the bunches.—J. W.

Cabbage Aphis.

How can I destroy lice on cabb —F. S., Otay.

See article by Prof. Woodw on first page of this issue.

Apricots and Grapes.

I have a moist, sandy loam which I intend to plant to Mu vines, 6x12 feet, apricot trees 24 apart (each tree to take the plac a vine.) Is this land heavy en for apricot trees and if not, w they be successfully grafted on mond?—H. C. F., Tulare.

You had better plant apricot beach root, unless the land is to at certain seasons of the year which case, have your apricot Myrobalan root. Peach roots not endure standing water for

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ith leaky roofs?
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Box 123, Lordsburg, Cal.
Successor to Perham & Wheeler

a moderate length of time in the spring, nor land that is saturated at that time.—J. W. M.

Government Publications.

Can I have my name placed on the list at the Department of Agric. at Washington and receive bulletins pertaining to poultry and bees? —A. H. N.

You can. Address Department of Agriculture and request bulletins already printed along those lines, and request that future publications along same line be sent you.

HISTORY OF THE ANGELENO WATERMELON.

This melon I first noticed on a single hill in a field of Chilian watermelons, in 1903. It at once impressed me on account of its brilliant, dark green color and spherical shape, as I did not know whether it was a hybrid or a fixed mutant, I merely saved a few seed and planted them by themselves. The next year in the test it proved a mutant. The following year I planted a little over half an acre, but barely saved enough seed to make another planting, on account of the blight.

The following year I planted a little over a hundred hills on a mountain spur, so as to keep away from the blight, here I secured eighteen pounds of seed. As all my land had the watermelon blight, I last year got others to grow it for me. For my share I secured the seed; that is, they agreed to gather and sell no seed. As soon as the first load arrived on the market, Mr. Musser, president of the Johnson & Musser Seed Company, of Los Angeles, stepped on the wogan and at once looked me up and made a contract for all the seed.

The Angeleno sold at an advance of from fifty to seventy per cent over any other melons.

The growers, according to their statement, made one thousand dollars over and above what they could have secured, had the same field been planted to any other melon. Johnson & Musser Seed Co. have the exclusive right to sell the seed of this melon.—J. C. Ostergard.

IDEAL WATER LIFT.

The writer recently saw in operation in Los Angeles a water lift which is surely novel and has promise of being as effective as it is novel. There are no pump valves nor plungers to get out of order. The scheme is to draw the water by a vacuum created by the explosion of gasoline within the vacuum tank. The explosion can be brought about by the pressing of a button in the kitchen, as by forcing a large head match through an opening within the tank. Then the proper valves are opened when the water promptly rises and fills the tanks on either the first or second floor. It looks too easy to be true, but it certainly works right before your face.

Besides that the system has been placed in actual operation and the Messrs. Cartright & Co., who are Pacific Coast agents show numbers of testimonials of pleased patrons. Among its advantages named are hot and cold water in your house at all times without labor; at a small cost with a simple device; any woman can operate it; a ten-year-old child can operate it; one plant furnishes water from one or more supplies; it brings water from any distance, a mile if you wish; it furnishes water where you wish and at as many stations as you wish; you can have your bathroom and all modern conveniences the same as city residence; it costs practically nothing to maintain. A letter to Cartright & Co. 110, 112 North Los Angeles street, Los Angeles, will bring interesting information.

A GREAT CATALOGUE.

A 360 book is required to catalogue and list the pumps and tools manufactured by the F. E. Myers & Bro. of Ashland, O. And it is not filled with any dead matter, but every page is packed with information and a vast number of illustrations. It's a wonder and an indication that a great firm is behind it.

If interested in pumps write Myers & Bros. and you will get something valuable.

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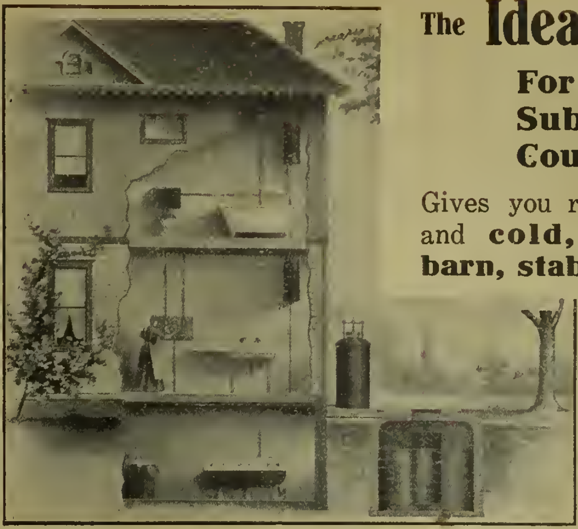

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Suburban and
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Gives you running water, **hot** and **cold,** in your **house, barn, stable, dairy,** or any place you wish.

You can have your complete **bath** room and all modern conveniences the same as the city residence, at a less cost. It costs practically nothing to maintain.
No heavy storage tanks necessary.
Gives you **fresh running water.**
A simple device. A child can operate it.
Guaranteed to do the work. Must be seen to be appreciated.
Call and see demonstrating plant in operation.

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Long Beach, Cal., 10-16-07.
Dear Sir:
Replying to your favor of the 15th inst., I take pleasure in certifying to the fact that the two Twentieth Century Air Lifts which you recently installed for us in wells No. 1 and No. 2 at Wilmington, California, have proven very satisfactory, and that the results more than verify your guarantee to produce 25 per cent more water.
Very truly yours, Jean G. Drake, Auditor.

Write for general information and records of tests, designs and specifications for all kinds of power plants. Speciality of irrigation systems.
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AGENTS WANTED
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Write for Catalog. 112-118 S. Los Angeles St.

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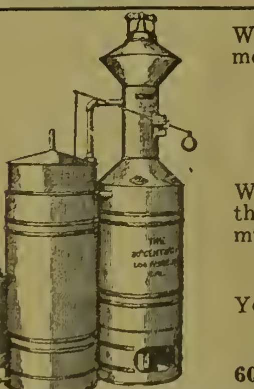

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THE OLDEST AND LARGEST IN THE SOUTHWEST
CAPITAL AND SURPLUS $1,200,000.00
RESOURCES OVER $21,000,000.00
FOUR PER CENT INTEREST
PAID ON TERM DEPOSITS

Household Department

THE OLD HASSAYAMPER.

[The original "Hassayam" poem, written by Andrew M. Ruffner, on the banks of the Hassayampa river, in Western Arizona, in 1871, and set from the original manuscript in the office of the Redland's Citrograph from which we take it.]

He looked at the sky,
  This old Hassayamper;
The weather was dry,
  And he said, "if 'twas damper
Along on the creek,
  I'd run my long tom
And my shovel and pick,"
  Said this old Hassayamper.

The gold in the sand,
  Was the thing that was craved,
But it couldn't be panned,
  So it couldn't be saved
By this old Hassayamper,
  Until there was water
To moisten the pile
  That he'd thrown from its bed
For a terrible while,
  Awaiting the gulch to get damper.

His name at the store,
  Where he got his supplies,
Had been placed on the score
  That was not on the rise,
Just at present;
  But a cloud in the sky
And a breeze from the south,
  Brought a tear to the eye
And the heart to the mouth
  Of this old Hassayamper,
And expressions decidedly pleasant.

But the clouds were dissolved,
  And the showers came not,
While scarce had our hero
  A bean in his pot;
Yet judging from boots and from breeches,
  You would scarcely suppose
He would hanker for those
  For like these are the sobs of the witches.

But our old Hassayamper,
  Without even unfurling the flag of distress
Though so short in his beans and so long in his dress,
  Stayed yet with his claim,
  (As a maiden hath stayed
With a hope that she had
  Till she's adjective mad,)
Awaiting the gulch to get damper.

Ah! where is the hero that's braver than this,
  And where is the hope more encompassed with bliss,
For he sees in the sand as the hope were a truth,
A treasure to gladden the loves of his youth.
The loves of the old Hassayamper.

Had he failed to prepare
  For a season much damper,
The merchant would swear,
  For at last came the floods of a glorious rain
But! Lo, Death had been there
  As they saw by the grave
Of the old Hassayamper.

VARIA IVANOVNA'S VENGEANCE.

AT A cafe in one of the principal boulevards of Paris sat Aleksei Lukitch, a Russian gentleman, twirling his mustaches. He had good reason for self-congratulation. High in favor with the czar, he had long been employed in the work of hunting down certain persons suspected by H. I. M.. He had just followed one of his master's bitterest enemies to Paris, secured his arrest and, by permission of the French government, was off on the morrow to take him to Russia.

A gentleman and lady entered the cafe and glanced at the occupants, and the woman, who was veiled, seeing Lukitch, though he did not notice her, said something to her companion and they took seats directly opposite the Russian. When for the first time he looked at her his eyes rested upon her curiously.

"I will trouble you, m'sieu, to cease your insulting stare," said the woman's companion.

The Russian apologized, but th other grew more and more violen till it was evident that he was i tending to force a quarrel. His l sults came so thick that there w but one recourse for Lukitch—h tossed his card at the man an turned his back. Meanwhile th lady had retired to a distance, an her escort, having produced his ow card, joined her.

* * *

Day was dawning and the bells Paris at a distance were striking th hour of four when two carriage soon followed by a third, drew up a road in the environs and a party from each passed to an open space beside a stream. The man who the night before had forced the quarre advanced to Lukitch and said:

"Permit me, m'sieu, to apologiz for my insulting language last night or, rather, to explain it. Early i the evening a lady asked me to escort her in a round of visits to the restaurants in a search for some on she wished to find. When she saw you she asked me to take the cours I did, promising that the affai should be taken off my hand M'sieu, I have the honor to present your real antagonist."

A figure, smaller than the othe present, who had been standing bac advanced, threw aside a cloak an revealed that she was a woman. Sh was dressed in a tight fitting co tume, with a short skirt, such as girls wear in a gymnasium. The moment Lukitch saw her he started

Varia!" he exclaimed.

"Varia Ivanovna, at your service, Aleksei Lukitch."

"What does this mean?" he asked in a tone that indicated he knew it meant a good deal to him.

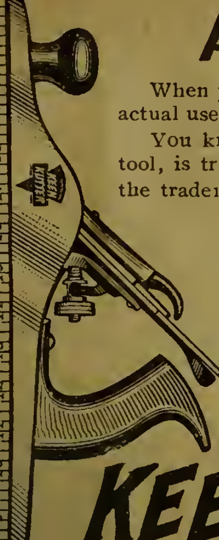
"That the day of vengeance has come."

The others of both parties dr near, intent on this strange turn in the affair. The woman continued:

"You are a faithful servant of your master, Aleksei Lukitch. He rewards you for your service to him it is my part to punish you for yo treachery to me. You made love well, Aleksei, so well that you won my heart. You had fine revolutionary sentiments, so fine that they wor my confidence and I revealed ou purposes to you. Do you see the shrunken cheeks, these premature white hairs? Well, these come fro prison life in Siberia, where you se me. It was during those bitter day in that dark, wintry country that conceived this purpose, and ever day, except when I took part in hunger strike in which we were try ing to end our sufferings by deat I renewed my vow of vengena That vengeance was to have be murder. I have changed it to dea in an honorable way in the eyes the world. On guard!"

The woman spoke as though n for a moment did she doubt the issu of the combat. To her enemy h words seemed prophetic. The han in which he held his sword trembl

Then he saw a throng of wretche creatures, emaciated, starved, co ered with prison filth, white from th shadow in which they lived, gather ing about him and their champio Their eyes glistened as those wolves hungry for his blood. H heard the wind roaring through th Siberian forest now and again inde



A True Plane

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You know it will be perfect in hang, balance, temper, finish and adjustment, because all Keen Kutter Tools are tested and inspected and found worthy to uphold their well-earned reputation as Tools of Service before the name and trademark are stamped upon them. This mark is your safeguard in buying tools. It costs you nothing, but means if anything goes wrong you shall not be the loser. To be sure of lasting, accurate, and practical tools, ask for

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Keen Kutter Tools have been sold for nearly 40 years under this mark and motto:

"The Recollection of Quality Remains Long After the Price is Forgotten."—E. C. Simmons.

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with the shrieks of some prisoner crazed by suffering.

Above this wail came faintly the words "On guard!" spoken sharply by his second to call him to himself. It failed to rouse him. Those looking on wondered. His condition was so pitiful, he seemed such easy prey, that both parties looked to see the woman throw down her sword and give him his life. But she, too, saw in memory the throng of his victims. She saw, too, the handsome fellow that had won her heart for the purpose of betraying her and those whose secrets she had given him. Not one look of womanly pity lighted her face, dark with her own and others revenge.

"On guard!" she cried.

"On guard!" shouted the men of both parties as matadores strive to anger a drooping bull.

Aleksei Lukitch heard and roused himself to die.

A few minutes later the woman threw down her sword and walked quickly to her carriage. She did not shudder; she did not weep. This phase of woman's nature—at least for this one man whom she had killed—had long ago been eliminated. Alone she had come on to the field, and alone she drove way. She had sprung from whence no one knew and went no one knew whither. No angel of vengeance appointed by heaven to avenge sorrows heaped on its suffering children could have struck more mercilessly.—Arline Phillips in Field and Farm.

HOMELY HINTS.

A woman with a spoon can throw
Out of a window more
Than a man with a spade
Can shovel in at the door.

Scraps or "Left-Overs."

To prevent this, save the scraps. This morning I find I had left from yesterday's dinner three slices of steak, a bowl of gravy, plate of potatoes and a dish of corn. I sliced the potatoes, placed on a pan, put the steak on top of them, added salt and pepper, over all poured the gravy, placed in the oven until piping hot, then served on individual dishes.

To the corn I added a well-beaten egg, a little flour, cup of milk, salt and pepper; then fried in hot lard. Do not have the batter too thin.

I took three slices of stale bread, fried a light brown, buttered well, added a little salt; kept hot until I beat three eggs very light; to them I beat in a pint of sweet milk; poured over the bread; then cooked until the eggs were set, cut each slice of bread in two, dished up and covered well with the egg—a nice breakfast dish.

Cold Rice.

If I have cold rice I make croquettes of it by adding an egg, salt, pepper and sweet milk. Have batter very stiff, or sometimes I add the rice to my batter. It is fine in waffles.

To Cook Tough Beef Tender.

Put in kettle with plenty of water, add one large onion, a cup of vinegar, salt and red pepper. Boil slowly several hours. Remove the bones. Put in a crock and weight down. When cold slice and serve, or dip slices in flour and fry in butter. It will keep for days. Use stock for soup.

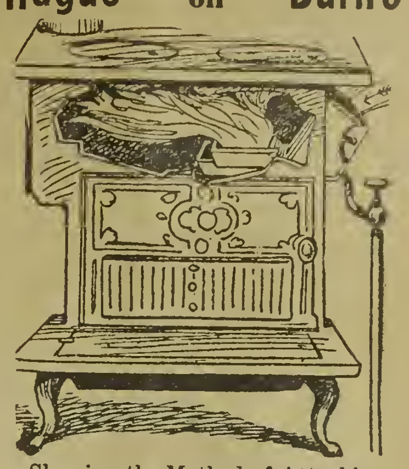
To bake potatoes quickly pour boiling water over them and boil ten minutes then place in the oven.

Spread stove polish with a paint brush, and shine with a flannel cloth or brush.

Use baking powder can for chopping potatoes for hash or warming over.

Skim milk makes a nice starch for calico cloths.

Dirty wicker chairs and tables are easily cleaned and made to look like new by being scrubbed with salt and water and then set in the sun and air to dry.



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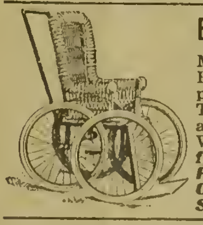

EAMES TRICYCLE CO.

Manufacturers of Invalid Rolling Chairs for all purposes. Self Propelling Tricycle Chairs for the disabled. Invalid Chairs Wholesale and Retail and for rent. 1022 San Pedro St., Los Angeles, Cal.; 1808 Market St., San Francisco, Cal.

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Solicitor of American and Foreign Patents Copyrights, Trademarks and Labels Registered. Rooms 428-433 Bradbury Blk. Los Angeles, Cal. Phones: Home, A4619; Sunset, Main 347

Montbello held a farmers' institute last week with a program largely devoted to gardening.

LINERS

Liner Advertising

Advertisements in Liner Column 1½ cents per word. Eight words to a line. No advertisement taken forless than 25 cents.

TREES.

FOR SALE—ABOUT 50,000 BLUE GUMS, fine plants ready any time after January 15th. Price low if ordered quick. H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

20,000 SEEDLING AND GRAFTED WALnuts, fruit, ornamental trees, palms, roses. A thrifty, well grown stock. A. R. MARSSHALL, nurseryman, sales yard cor. Third and Main streets, Santa Ana, Cal.

WALNUT TREES—5000 VERY FINE, LARGE seedlings. Seed selected from original Placentia Perfection grafted trees. Free from disease. Lowest prices. G. W. SHERWOOD, Fullerton, Cal.

BUDDED ORANGE TREES, VALENCIA and navel 2-year-old buds, clean and thrifty stock. Address F. E. CHAPMAN, R. F. D., box 34, Pasadena, Cal.

FOR SALE—GOOD SANTA BARBARA softshell walnut trees (seedling,) also standard deciduous fruit trees and grape vines. The AUBURN NURSERIES, East Auburn, Cal.

EUCALYPTUS TREES—ORDER NOW AND have your choice of any variety at any price, of any size. A. L. HURTT, San Bernardino, Cal.

FOR SALE—100,000 BLUE GUMS (FINE plants.) Address L. Z. HUNTINGTON, Anaheim, Cal.

EGGS FOR HATCHING.

FOR SALE—VERY REASONABLE, EGGS for hatching; Barred Plymouth Rocks, Illinois and Arrowhead strains; Buff Orpingtons, fine layers, solid colors; S. C. White Leghorns, McFarland strain.Also White Embdem geese for sale—winners of 2 firsts, 3 seconds, 4 thirds at Poultry Breeders' Show, Jan., 1908. Member of Poultry Breeders' Association. MRS. LINCOLN NICHOLSON, box 47, Gardena, Cal. Home phone 104.

EGGS FROM MY PRIZE WINNING BARred Rocks; won all firsts, all seconds but one, and all specials on Barred Rocks at L. A. C. P. A. Show, 1907. Eggs from best pens, $3 per 15; $12.50 per 100. Stock for sale. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

NINETEEN HUNDRED AND EIGHT Poultry business will be more profitable than ever. Order your eggs for hatching now. We have thoroughbred White Leghorns and Wyandottes. Also a few beautiful White Holland Turkeys for sale. SAN GABRIEL POULTRY FARM, San Gabriel, Cal.

WHITE LEGHORNS (HOWARD STRAIN), W. Wyandottes (Hubbard strain) Eggs; Leghorns, $5 per $100; Wyandottes, $7. Baby chicks FROM BRED TO LAY STOCK SHIPPED anywhere. Ranch 2 blocks from car. F. T. McLAUGHLIN, Gardena.

POULTRY

FOR SALE—EXTRA CHOICE WHITE Plymouth Rock (Humphrey strain,) and White Wyandotte (Hayes strain;) breeding stock. In order to make room, we will make a special price of $15 per dozen on extra large, pure White Plymouth Rocks and White Wyandottes. Our White Rocks are extra large, good shape, vigorous and laying. Also some choice cockerels, from $2.50 to $4 each. Order quick, as they will not last at the price. KLONINGER BROS., 838 S. Main street, Los Angeles, Cal.

WHITE WYANDOTTES—"CREAM OF THE Coast" strain—the 200-per-year kind. Barred Plymouth Rocks, my "Blue 'Diamond" strain, are great winter layers of big, brown eggs. No incubator lots furnished. Eggs per 13, after Jan. 1, carefully packed, $1.50. Address WILLIAM C. PARKER, 111 Pacific avenue, Santa Cruz, Cal.

WHITE PLYMOUTH ROCKS EXCLUSIVEly. The largest flock of prize winning birds in the West. At the late Los Angeles show, 1907, we won twenty-three out of a possible twenty-five prizes. We offer extra bargains in our this year's breeders. Will sell to suit purchaser. Eggs $2.50 per 15; $10 per 100. A. J. LITTLE, Monrovia, Cal.

BRONZE TURKEYS AND BARRED Rocks a specialty. Are noted for size and hardiness; all birds sold that I can spare. Fertility guaranteed. Am booking orders for eggs for hatching. Turkey eggs, $5.00 setting; Barred Rocks, $3.00 setting. Address, A. H. BLAKELY, rd No. 2, Ontario, Cal.

BLUE ANDALUSIANS. WON ALL PRIZES at Los Angeles County Show, 1907. A few good trios and pens; also good breeding cockerels; eggs for hatching. $2 and $2.50; no better stock anywhere. MRS. T. R. GRIFFITH, 3111 Walton ave., Los Angeles, Cal.

FOR SALE—WHITE LANGSHANS, WHITE Indian Games and Black Wyandottes from 1st prize pens. Stock and eggs for sale. Mountain View Poultry Ranch, corner Budlong and Slauson Ave. BOX 68, Route 9, Los Angeles, Cal.

BLACK-TAILED JAPANESE BANTAMS; winners wherever shown. A lot of good youngsters at $5 and $7 per pair if taken soon. Eggs $2 and $3.50 per 15. F. J. IRONMONGER, 127 N. Garfield Place, Hollywood, Cal.

ALTADENA ORPINGTON FARM—MATSON Hayden, Box 1001, Pasadena. Golden Buffs exclusively; fine male birds a specialty. Settings $10.00 and $5.00. Five winnings at show in Los Angeles, 1908. Satisfaction guaranteed.

S. C. WHITE LEGHORNS—I HAVE 35 hens and 2 cocks 19 months old selected breeders hatched from Howard's best pens. I will sell the lot for $70 or 17 hens and 1 cock for $35. CLYDE J. MOSS, Corona, Cal.

FOR SALE—INDIAN RUNNER DUCK eggs; fine stock; over eighty per cent fertile; 75c per dozen; incubator lots $4.00 per hundred. J. W. LYON, R. F. D. No. 1, Gardena, Cal.

COLUMBIAN WYANDOTTES — NEVER fail to win in the hottest competition. A few trios for sale. Eggs $3 and $5 per 15. F. J. IRONMONGER, 127 N. Garfield Place, Hollywood, Cal.

FOR SALE—PRIZE PARTRIDGE WYANdotte cockerels; all prize winners; from $10 to $25. C. L. HOGUE, San Gabriel, Cal.

MISCELLANEOUS.

DELMONICO'S CHEF SAYS: "THE ANchor egg separator works perfectly; no well regulated hotel or household can afford to be without it." Send ten cents, or ten names of persons keeping poultry, and we will send one postpaid. WEST COAST MILL, 818 San Fernando St., Los Angeles, Cal.

NOTICE—TO GROWERS OF SMALL grains, wheat oats, barley that they can get their crops insured against drougth for $1 an acre for five years. Money refunded if normal crops are not raised. DAVE HUTCH, Hotel Hollenbeck, Los Angeles.

EXTRA HIGHGRADE CHILIAN WATERmelon seed. White or red; sixty cents per pound. Fancy pineapple cantaloupe seed, 80 cents per pound by express. Mail fifteen cents additional—no culls. S. FAIRBURN, Burbank, Cal.

ALL KINDS OF TREE AND VINE PRUNing (top,) grafting, budding, and yard work done. Your patronage is solicited. Address M. A. WALLACE, Station M, Los Angeles.

$12,000—EXCHANGE FOR EASTERN FARM 32 acres garden soil, one mile east of Anaheim, new improvements, water stock Owner, L. B. LAURIDSEN, rd 3, Anaheim, Cal.

WANTED—300 FRANQUETTE WALNUT scions from bearing trees for grafting. Please state price. C. K. WOOD, Yuba City, Cal.

FOR SALE—YELLOW SWEET POTATO seed, 2½ cents per pound. E. G. METCALF, Phone Home Black 31, El Monte, Cal.

GRAPE CUTTINGS.

FOR SALE—20,000 CORNICHON GRAPE cuttings; strong wood 18 inches long, at $5.00 per 1000; 500 fine plants ,German Box, out of 5-inch pots, $20.00 per 100; 1000 Phoenix Canariensis 4 feet and over, established, $1.00 each; 1000 Washingtonia Robusta and Phillippera 3 to 4 feet (balled or established.) H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

CHOICE GRAPE CUTTINGS AND ROOTS—Cuttings, $3.00 per thousand; roots, $3.00 per hundred. Cornichon, Red, Emperor, Thompson Seedless, Flame Tokay, Rose Peru, Muscat, Mission. J. C. Smith, Burbank, Cal.

FOR SALE—A LARGE VARIETY OF THE best table grape cuttings. Also Mammoth Black and Logan berry plants. For full particulars and prices per thousand, address E. DONDANVILLE, San Gabriel, Cal.

BERRY PLANTS.

FOR SALE—MAMMOTH BLACKBERRY, 100, $3; 1000, $25; Himalaya Giant blackberry, 100, $4.50; 1000, $35. Express prepaid to California points, ADELBERT COOLEY, Laton, Cal.

WANTED—ONE-YEAR OLD LOGANBERry plants. Address P. O. BOX 2697, Fresno, California.

STRAWBERRIES, 91 SELECTED VARIEties, list and prices on application. TRIBBLE BROS., Elk Grove, Cal.

FOR SALE—THRIFTY, YOUNG WALNUT trees. Grown from selected softshell seed. $25 per hundred on car at depot. A. M. HOEL, Goleta, Cal.

WANTED—PRIMUS RASPBERRY, PHEnomenal and Logan plants, Address, LOCK BOX 64, Gridley, Cal.

MACHINERY.

FOR SALE CHEAP—ONE JUBILEE INcubator and one Jubilee brooder. Used one season. HEMPSTEAD & CURTIS, Charter Oak, Cal.

FOR SALE—
6-H.P. Fairbanks-Morse gasoline engine in perfect running order, at a snap. 943 N. MAIN ST., Los Angeles.

FOR SALE—
50 and 60-H.P. Fairbanks-Morse distillate engines, both in A1 condition, at a bargain. WAITE, BAILIE & CO., Los Angeles.

FOR SALE—
15-H.P. Otto distillate engine, almost new; at a bargain. 117 BRUNO ST., Los Angeles.

ARTICHOKES.

FOR SALE—JERUSALUM ARTICHOKES—The great winter hog feed. Address FANCHER CREEK NURSERIES, Fresno, California.

FARM LANDS FOR SALE.

FOR SALE—1 to 10-acre tracts on car line between Riverside and new cement works. Good for chicken ranches, alfalfa or gardening. Will sell on easy terms. Plenty of water on each tract. N. R. BELL, Riverside, Cal.

FOR SALE—40 ACRES, LEVEL; FINE for chickens, vegetables, berries, etc., $30 per acre; a bargain. WM. MANTZ, Santa Maria, Cal.

PHEASANTS.

"PHEASANT FARMING," ILLUSTRATED, 25c. Tells how to raise pheasants. Birds and eggs for sale. SIMPSON'S PHEASANT FARM, Box C247, Corvallis, Oregon.

GRAPE CUTTINGS WANTED.

WANTED—CUTTINGS OF THE FOLLOWing for grafting purposes: Rupestris St. George, Riparia x Rupestris 3306, Riparia x Rupestris 3309, Riparia x Rupestris 106-8 and Mourvedre x Rupestris 1202. Address FANCHER CREEK NURSERIES, Fresno, California.

POTATOES.

WANTED—SEED POTATOES—EARLY VArieties. State price. F. O. B. your Station. Address BOX 3, El Centro, Cal.

HORSES.

FOR SALE — OR TRADE FOR COWS, 3 good brood mares, ages 12, 10 and 5 years;. Will sell cheap, as I have no use for them; also a good ranch for sale on easy terms, and one O. K. hay press. Address C. E. GARRETT, Hynes, Cal.

CATTLE.

FOR SALE—A THOROUGHBRED JERSEY heifer 9 months old. Inquire CALIFORNIA CULTIVATOR or FRANK DOUGLAS, Hollywood.

The Produce Markets

Los Angeles Markets

LOS ANGELES, Jan. 22, 1908.

Butter.

Butter is unchanged and market is steady, at least as to fresh stock, while the storage shows a weakening.

Creamery ex per roll	.70
Firsts	.55
Dairy	.45
Cooking	.45@47
Eastern	.55@60
"Butterine"	.15@20

Cheese.

Cal Young America per lb	.20½
Hand	.20½
California Anchor	19
Northern fresh	.17¼@17½
Eastern singles	.19
Imported Swiss	.32
Tulare flats	.18½
Domestic Swiss	.21@22
Oregon	.18

Eggs and Poultry.

Eggs have advanced slightly again during the week for fresh stock, and also the receipts are heavy. Storage have gone to pieces and great loss confronts the holders, unless an emergency freight rate can be secured so that they can be reshipped cheaply back to the Middle West from which they came some months ago. This is an indication that California is coming to the point where she will produce her own eggs.

Eggs local candled	.29@30
Eggs case count	.28½
Fresh Eastern	.20
Eastern storage	.15@18
Hens per lb	.14
Young roosters per lb	.15
Fryers	.18
Broilers per lb	.21
Old roosters	.8
Turkeys	.15½
Geese	.13
Ducks	.16
Squabs	1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds	.6
Prime steers	.4½
Heifers	.4
Calves per lb	.4½@5
Sheep ewes per head	.4.75
Lambs per head	.3.75@4.25
Wethers	.5.50

Potatoes.

Highlands	.1.15@1.35
Early Rose	.1.75@1.85
Salinas	.1.75@1.85
Sweet Potatoes per sack	.2.65@2.75
Oregons	.2.00

Onions.

Yellow Danvers	.2.85
Australian Browns	.2.90@3.00
Oregons	.3.00
Garlic	.10

Vegetables.

Artichokes per doz	.1.15
Beets per doz	.25@35
Bell peppers per lb	.9@12
Beans limas per lb	.6@8
Beans green	.10@15
Brussels sprouts per lb	.5@6
Cabbage sack	.30
Celery per crate	.1.80@2.00
Chili peppers green lb	.2@2½
Cucumbers per box	.50@1.00
Cauliflower	.50@75
Carrots per doz	.30@40
Egg plant	.8
Green onions doz bunches	.10@30
Hubbard squash per lb	.1@1½
Lettuce per crate	.75
Pie Pumpkins	.1½
Peas sugar per lb	.3@5
Parsley	.30
Parsnips	.35@40
Rhubarb per box	.1.00
Radishes per doz	.15@20
Salsify	.30
Spinach per doz	.10@25
Squash crate	.1.00
Turnips doz bunches	.40
Tomatoes per box	.1.75@2.00

Citrus Fruits.

Navels fy	.2.00@2.25
Navels ch	.1.50@1.75
Culls	.75@90
Grapefruit seedless	.2.50@3.00
Grapefruit seedlings	.1.75@2.00
Lemons fancy	.1.25@1.50
Lemons choice	.1.00@1.25

Fresh Fruits.

Bellefluers	.1.90@2.00
Baldwins	.1.25@1.50
Pippins 4-tier	.1.50
Gravenstein	.1.50
Alexandria	.1.00@1.50
Cooking	.50@1.00
W W Pearmains	.1.75
Colorado Jonathans	.3.50
Casaba per crate	.2.00@2.50
Guavas	.6@8
Winter Nollis per lb	.7
Pomegranates per lb	.7
Persimmons	.5@10
Quinces	.1.25
Raspberries	.10@15
Strawberries	.3@7

Dried Fruits.

Apricots	.17@21
Evap apples fy per lb	.10½@11½
Figs loose	.4@6
Peaches	.12@13
Pears	.12½@13
Nectarines	.13@14
Prunes	.3½@5½
Plums	.11½@13

Beans Dried.

Limas per ctl	.5.30
Pink No 1	.3.65
Lady Washington	.3.75@3.95
Small White	.3.75@3.85
Black eyes	.5.00
Garvanzas	.5.25@5.75
Lentils	.12@12½

Nuts.

Almonds per lb	.18@20
Peanuts Virgina	.8½@9
Peanuts California	.7@8½
Walnuts No. 1 SS	.15@18

Honey.

Extracted Water White	.6@7
Comb W W	.11@13½

Hay.

Barley No 1	.14.00@18.00
Barley No 2	.13.00@14.00
Alfalfa northern per ton	.15.00@17.00
Alfalfa new local	.15.00@17.00
Plain Oat No 1 new	.16.00@18.00
Wheat No 1	.18.00
Wheat No 2	.14.00

Grain.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl	.1.85
Wheat in 100-lb. sacks	.1.90
Barley	.1.50
Corn Eastern sacked	.1.80
White oats	.1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn	.1.85
Shorts	.60
Bran	.1.50
Oil cake meal	.2.60
Feed meal	.1.90
Rolled barley	.1.70

TWENTY-TWO ACRES OF WYANDOTTES.

Grace & Sons, of San Jose, are a new firm to the readers of the Cultivator, but they are not new as breeders of White Wyandottes. In their yards are found many prize winning birds, and birds that have won prizes in the strongest competition on the coast.

Grace & Sons' ranch consists of 22 acres, and they have over 500 White Wyandottes mated up for the coming season's egg trade. However, the egg trade is not the only branch of the business they expect to engage in, for they are preparing to take care of the baby chick trade. Those wanting either eggs or day-old chicks can rest assured that they will get good, healthy, vigorous stock, for the breeding stock has been carefully selected and mated. This, with plenty of free range, insures strong fertility and strong vigorous chicks.

In arrangement of houses for their stock, incubators and brooders, this firm has been very liberal, building good, substantial, well ventilated houses.

They also have a limited number of choice breeding stock for sale; their birds are the true Wyandotte shape; are pure white. If in need of stock or eggs write them, mentioning the Cultivator.

The Sonoma County Farmers' Mutual Fire Insurance Company has just finished a successful year's work and now ranks fourth amongst the mutual insurance companies of the State. During the past year its new business aggregated $581,000 and its total expense was less than $1000. The new board of directors are: Geo. W. Smith, Santa Rosa; A. E Burnham, Dry Creek Valley; Carl Peterson, Alexander Valley; Wm. Evart, Penngrove; A. P. Martin, Two Rock Valley; N. A. Griffith, Vine Hill; John Strong, Bennett Valley; G. N. Sanborn, Sebastopol; J. M. Given, Forestville; S. R. Hill, Windsor; James Sorenson, Petaluma.

Anderson is making a special effort to secure a new creamery.

San Francisco Markets

SAN FRANCISCO, Jan. 21, 1908.

Butter.

Butter is weak with storage going begging. Fresh ranch has advanced a half cent during the week, but full quotations are not always reached.

The current prices on dairy products in San Francisco are always from 2 to 3 cents higher than the rates given in the daily official list of the Wholesale Dairy Produce Exchange. The retail dealers in this city invariably pay an additional 2 cents per pound on butter and per dozen of eggs, and occasionally it is 3 cents. On cheese the increase is 1 cent per pound. By making these additions to the Dairy Exchange prices the producer in the country can always determine the actual prices ruling in this city. The quotations as prepared by the San Francisco Wholesale Dairy Exchange yesterday were as follows:

California extras per lb	34½
California firsts	30
California seconds	22
Eastern extras	24½
Storage Cal ex	24½

Cheese.

California young American fy	15
California flats fy	15
Eastern fy	17½
Oregon fancy	15

Eggs and Poultry.

Cold storage eggs are in a bad way, and prices are being slaughtered. Storage have sold during the week at lower than the quotations now given. And figures below quotations are now ooked at with favor by the seller. It s generally conceded that the dealers underestimated California's capacity o produce eggs.

Fresh ranch eggs	29½
Eggs firsts per doz	26½
Eggs seconds per doz	25
Storage Cal extra	18
Eastern selected	20
Eastern firsts	18
Hens per doz	4.50@6.00
Hens extra	6.00@7.00
Young roosters	6.00@6.50
Old roosters	4.00@4.50
Fryers per doz	5.00@6.00
Broilers per doz	4.00@5.00
Geese per pair	2.00@2.50
Ducks young	4.00@5.00
Turkeys per lb	15@16
Pigeons	1.00@1.25

Live Stock.

Steers No 1	8½@9
Do second quality	7½@8
No. 1 cows and heifers	6½@7
Hogs 80 to 200 lbs	5¾@6
Hogs 200 to 300 lbs	5½
Calves per lb	4½@5
Lambs	5½@6
Wethers No 1	5@5½
Ewes No 1	4½@5

Potatoes.

River whites	35@75
Oregon Burbanks	90@1.25
Early Rose	1.10@1.30
River Reds	1.35@1.40
Salinas Burbanks	1.00@1.25
Sweets per crate	2.50@2.75

Vegetables.

Celery per crate	75@1.00
Cucumbers per doz	1.00@1.25
Chili peppers per lb	8@10
Bell peppers per lb	10@11
Beans Limas	12@15
Egg plant per lb	15
Green peas per lb	5@6
quash per box	50@1.25
Marrowfat squash per sack	60@75
Mushrooms	15@40
Hubbard squash per sack	60@80
Rhubarb per box	50@1.00
Tomatoes local	2.00@2.50
tring beans	15@17½
Garlic	4@5

Onions.

Onions br Australian per ctl	1.75@2.00
Yellow Danvers	2.50@2.65

Citrus Fruits.

Navels fy	2.50
Navels ch	1.25@2.25
Grapefruit seedless	2.50@2.75
emons	1.50@2.50
Limes	3.00@4.00

Fresh Fruits.

Newtons	1.50@1.75
pitzenberg	2.25@2.50
ears winter Nellis	2.00@2.50
ersimmons	75@1.25
Pomegranates per box	1.00@2.50
uinces per box	1.00@1.25
trawberries per ½ crate	1,25@1.50

Dried Fruits.

pples (evap.)	9½@10
Apricots per lb new	18@20
Figs white	3½@5
Nectarines	10@13
Plums pitted	12@15
Peaches	10@13
ears	9@13½
Prunes 4 size bag basis	4@4½

Beans Dried.

Limas	4.50@5.00
Pink	3.15@3.25
Small white	3.35@3.50
Large white	3.00@3 10
Lady Washington	3.30@3.45
Black Eyes	3.85@4.00
Red Kidneys	3.25@3.50
Garvanzas	4.00@4.25
Bayo	3.15@3.25

Hops.

Hops per lb	5@8½
Hops old fancy	2@3

Nuts.

Nonpareil	13½@14
Ne Plus Ultra	12½
Peanuts California	6½@7½
Walnuts	14@17

Honey.

Clear white comb	16@17
Amber	12@15
Extracted	7½@8½
Beeswax No. 1 per lb	26@27
Beeswax No. 2 per lb	23@25

Hay.

There has been a still further diminution in hay shipments during the past week, the total showing 2580 ton in comparison with 3290 for last week and 4040 for the week preceeding that. In spite of this decrease the market is characterized only by a continued dull feeling which, condition will probably not be improved until a general clean-up can be effected, which present shipments will not yet permit.

Coastwise business and a general demand throughout the interior of the State still continue. A large shipment for the U. S. government at Manila, is anticipated within the next few weeks, which will help reduce the surplus city stocks somewhat.

Alfalfa shows some little improvement and No. 1 grade straw is in rather light supply and selling at a fairly good figure in consequence. Our standard grades of hay show no change in prices from the quotations given during the last two or three weeks. We quote today as follows:

Alfalfa local	13.50
Tame oat choice	15.00
Wild oat	10.00@13.00
Wheat and oat	11.00@15.50
Wheat choice	16.50@18.50

Grain.

Wheat No 1	1.65@1.70
Barley No 1	1.52½@1.55
Corn large yellow	1.60@1.65
Oats white	1.55@1.60
Oats red	1.75@1.90

Feed Stuff.

Bran per ton	28.00@29.50
Straw per bale	50@85
Feed cornmeal per ton	37.00@37.50
Cracked corn per ton	37.00@38.00
Rolled barley per ton	30.00@32.00
Oil cake meal per ton	38.50@40.00
Cocoanut cake, per ton	25.00@25.50
Middlings	31.00@32.00

Citrus Market

LOS ANGELES, Jan. 22, 1908,

The orange market is slightly depressed owing to large arrivals at this time. Shipments have been materially decreased and it is thought within a very few days the tone of the market will strengthen. Compared with last year, prices are low, but withall not at all discouraging.

Lemons are stronger and promise to hold, unless large shipments of foreigns now on way shall depress the farther Eastern markets.

Shipments.

Shipments to date are 4691 cars, of which 326 were lemons. Last year same date, 3198, of which 808 were lemons.

NEW YORK, Jan. 20.—Twenty-four cars navels, three lemons and one car Arizona navels sold. Five cars navels sold at late afternoon sale, making twenty-nine cars navels sold.

NAVELS—	Avg.
Orchard xfy Thom's Im Nat O Co	$2.70
West Highland o r Cleghorn Bros.	2.15
Whittier xfy Red Junc	2.70
Flower fy Grs' Ft Co	2.15
Mt. Harrison xfy Th Im F L Sew	2.60
Old Mission xfy C C Chapman	2.45
Mariposa fy Cal Cit U	2.40
Hollywreath fy Cal Cit U	2.20
Signal xfy Stewart Ft Co	2.15
Solano fy o r Stewart Ft Co	2.05
Moore Estate xfy Stewart Ft Co	2.20
West Highland xfy Cleghorn Bros	2.25
Highland Grs Ft Co	2.20
Sweetheart, xfy High Gr Ft Ex	2.45
Victoria xfy A H Ft Ex	2.45
Lincoln xc AH Ft Ex	2.20
Pointer ch Thom Im ACG Ft Ex	2.35
Pointer ch ACG Ft Ex	2.10
Stag fy ACG Ft Ex	2.20
Gold Buckle xfy RH Ft Ex	2.30
Iris xfy DM Ft Ex	2.15
Forgetmenot fy TC Ft Ex	2.30
Tulip xc TC Ft Ex	2.10
Blue Seal fy Azusa Foothill C As	2.25
Royal Knight xfy RH Ft Ex	2.20
Blue Globe xfy Riv Ft Ex	2.10
Red Shield xc ACG Ft Ex	1.95
Golden Orchard Tho Im In Ft Co	2.20

ARIZONA NAVELS—Desert boxes, $2.20; half boxes, $1.85.

LEMONS—

Independent xf Grs Ft Co	3.25
Independent st Grs Ft Co	2.60
Protection fy Ohio Lemon Co	2.95
Buckeye ch Ohio Lemon Co	2.60
Gold Buckle xfy RH Ft Ex	2.65
Lochinvar xc RH Ft Ex	2.45
Belt st RH Ft Ex	2.35

PHILADELPHIA, Jan. 20.—Eight cars navels and three cars lemons sold. Market is lower. Weather cold. Five thousand boxes Florida oranges sold. Market continues unchanged.

NAVELS—

Highlander xfy High Ft Gr As	2.30
Aloha ch Red Or Gr Asso	2.12
Independent o r Grs Ft Co	2.00
Quail xc QK Ft Ex	1.36
Pointer ch ACG Ex Glendora	2.10
Producers fy Red O Pack Co	2.30
Stag fy ACG Ex Glendora	2.26
Hunter st ACG Ex Glendora	1.98

LEMONS—

Orchid fy Altland Ft Co	2.30
Our Beauty st ST Ft Ex Lamanda	2.10
Canon st ST Ft Ex Lamanda	2.30

BOSTON, Jan. 20.—Market easier. Weather cold. Twenty cars on track. Fourteen cars sold.

NAVELS—

Blue Label fy TCC Ft Ex Lindsay	2.20
Forgetmenot fy TCC Ft Ex Porter	2.00
Oakleaf ch TCC Ft Ex Porterville	1.85
Whittier xc ST Ft Ex Whittier	2.10
Lochinvar xc RH Ft Ex E High	2.15
Rose xfy Red O Gr Asso	2.55
Producer fy Red Or Pack Co	2.20
Clover xc Red Or Gr Asso	2.10
Red Label ch TCC Ft Ex Lindsay	2.10
Tulip xc TCC Ft Ex Porterville	1.90
Pine Cone xfy SB Ft Ex High	2.35
Gold Buckle xf RH Ft Ex E High	2.35
Tiger fy SB Ft Ex Colton	2.85
Niagara fy o r Stewart Ft Co	2.30
Independent fy Grs Ft Co	2.20
Aloha ch Red Or Pack Co	2.10

LEMONS—

Pet xc SA Ft Ex San Dimas	3.05
Greyhound ch SA Ft Ex San Di	2.20

PITTSBURG, Jan. 20.—Weather favorable. Market firm.

NAVELS—

Iris xfy DM Ft Ex Monrovia	2.20
Transcontinental SS Ft Ex El Mo	2.10
Orchard st Nat Or Co	2.35
Violet xc DM Ft Ex Monrovia	2.20
Jasmine st DM Ft Ex Monrovia	2.10
Goldfinch ch SS Ft Ex El Modeno	2.00

ST. LOUIS, Jan. 20.—Market weak. Weather cold. Five cars sold. Eight cars on track.

NAVELS—

Volunteer xc SA Ft Ex Pomona	2.20
S. S. ch SS Ft Ex Orange	1.95
Greyhound ch SA Ft Ex Pomona	2.05

Floridas $1.55 to $1.80.

LEMONS—

Pet xc SA Ft Ex San Dimas	2.65
Duck st SA Ft Ex San Dimas	2.20
Greyhound ch SA Ft Ex San Dim	2.65

INVESTIGATIONS OF CABBAGE APHIS.

Continued from First Page.

when it is most needed. There have been a few attempts at controlling natural checks. Ladybirds have been gathered and introduced in large quantities for certain other species of plant lice. No attempt in these cases were made to determine what was actually accomplished, however, and in the instances that have come under my personal observation the results were almost nothing, though the growers were satisfied that the ladybirds had been effective because other conditions intervened which caused the destruction of the lice. Moisture can be secured by irrigation, possibly enough to develop the diseases, but there is no careful observation at hand to show that this is possible. Disease germs may be introduced also, and in the case of the chinch bug in the Mississippi Valley very careful experiments proved that under some conditions such introduction hastened very materially the death of the insect, when the weather became favorable. These, however, are all matters worthy of study and experimentation, but not yet dependable for practical work.

Spraying.

As our knowledge now stands, the sole dependence in the way of remedies is to spray the plants. What spray to use is not a very important question since the insects are very easily killed. Probably a kerosene emulsion or a distillate spray at about half the strength necessary for scale insects would be the cheapest. A soap solution, not stronger than one bar to five gallons, is the most convenient, at least for small growers. The spraying should be thoroughly done, if done at all, for the only insects killed are those actually wetted in the spraying operation. A spray nozzle should be used, giving a rather fan-like spray so that the stream can be directed accurately at the center of the plant, for at the best, some of the lice will escape treatment. The most thorough, careful work can be done at a cost not to exceed ten dollars an acre, and under the best conditions, probably for half that amount. Each grower will have to decide for himself whether in any particular case it will pay to make a treatment. One can afford to make two or three, or even more treatments, rather than lose the greater part of a crop. Probably in most cases one treatment may be enough to give the plants a start and keep them growing until natural conditions arise, unfavorable to the lice.

Fumigation.

The practical impossibility of reaching all the lice with a spray makes the idea of fumigation very attractive. This method is strictly in the experimental stage, however, as applied to field crops, and I regret to say the experiments thus far are not very promising. The cabbage louse appears to be about in the same class as the mealy bug in its resistance to cyanide, and the cabbage plant is rather liable to injury by the gas, perhaps because of the high water content of the leaves. However, it may be that it can be done, though it will certainly be more expensive than spraying. Perhaps it may be more practical for seed bed disinfection than for field work, and probably carbon bisulphide may prove more satisfactory than cyanide, or perhaps no method of fumigation may prove practical.

Dipping.

Every precaution should be taken to prevent the first introduction of lice into the field. In most cases observed this season the insect was without doubt present on the plants when they were set out in the field. A few growers practice the dipping of the plants in soap solution or in kerosene emulsion and in some cases apparently every louse was killed. Spraying the seed bed or dipping the plants before planting are both very inexpensive and certainly should never be neglected.

Cutting Weeds.

The original source of the infectation of cabbage plants in the field and seed beds is the wild vegetation belonging to the same botanical family. That is, mustard and wild radishes. A comparatively small amount of work would enable most growers to destroy such weeds for perhaps a half a mile from their seed beds and he could perhaps in this way produce plants entirely clean from the pest and possibly prevent the infestation of the field until the cabbage has a good start, and avoid the necessity of other measures. Old seed beds should be plowed under, since they are often a prolific source of lice they migrate to the adjacent fields.

Dry weather results in production of winged individuals which fly away and mostly die, but enough usually live to start new colonies on all promising cabbage plants. Remedies are necessary at times because natural checks are not controllable, or at least we have not learned how to efficently control them. The best recommendation is to spray whenever the insects threaten to do greater damage than the cost of the treatment. While spraying is not as thorough as fumigation, the latter method may not be economical. The dipping of plants before planting is recommended if the seed bed is infected, and the general destruction of mustard and wild radish is suggested.

Resume.

The cabbage louse, which is doing such a great amount of damage at the present time in our cabbage fields, is a cosmopolitan insect attacking the various members of the cabbage family. It goes through a series of four stages, the final stage being either a wingless and very prolific insect, or a winged, slower growing, more active and less fertile migrating form. Natural checks preventing it from overwhelming its food plants are beneficial insects, contagious diseases and weather conditions. The first has proven of very little significance; the second, though usually very effective, have also been of minor importance this season, and the last, while not very effective as a direct cause of death in our mild climate, still indirectly is a most important agent. Rains are effective chiefly because they produce conditions favorable to diseases.

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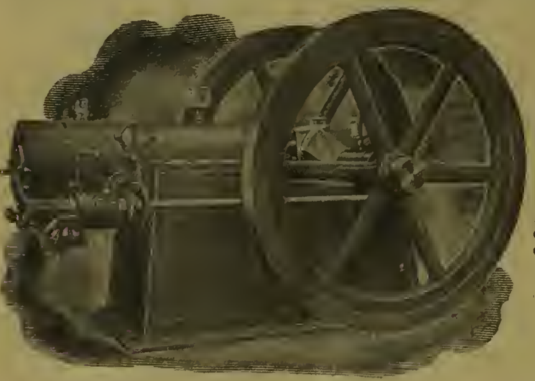

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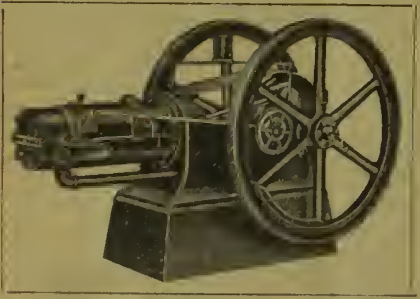

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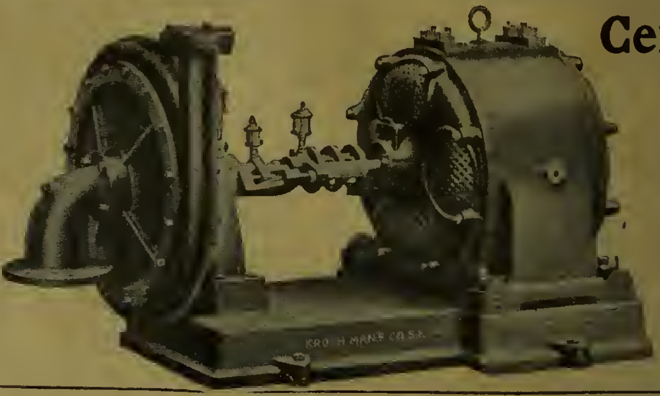

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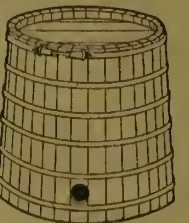

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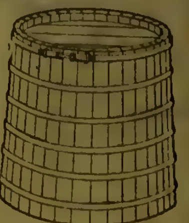

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California Cultivator

Vol. XXX—No. 5 Los Angeles, California, Thursday, January 30, 1908 Subscription $1 a Year

The Fruit Grower and the Parcels Post

An Article by Edward Berwick, of Pacific Grove, Read at the State Fruit Growers' Convention

WITH prunes and raisins at 5 cents per pound and canning peaches from $40 to $90 a ton it may be hard to persuade the fruit grower that he wants anything more this side of Paradise. Of course, we must except the extermination of the White Fly and the control of the pear blight. He may feel a little exercised as to the labor question; but, as sales f. o. b. are easy he can afford to let the other fellow worry over the old vexatious transportation troubles. In Los Angeles four years ago the fruit growers were telling quite a different story. We were then as unanimous as Jonah in the belly of the whale that our transportation troubles would be lessened, and our cash in hand materially increased, if Congress would authorize the Postmaster-general to institute an up-to-date parcels post, such as is enjoyed by other civilized countries.

To agitate for this end the Postal Progress League of California was organized. No doubt, many of you have since then read or heard various arguments, favorable or unfavorable, concerning the matter. But lest many of you are not familiar with the parcels post idea, let me briefly inform you of a few of the facts.

Almost all the civilized world regards it as the function of the post office, not only to carry letters but also packages, varying in weight from ounces to hundred weights. Switzerland, for instance, permits the mailing of anything that will pass through the door of a railroad car. Rates are various, but extremely low. Thus Germany, for six cents, within a 46-mile radius, sends eleven pounds, and for twelve cents all through, not only her own domain, but also through Austria-Hungary; a possible 1500 miles. Great Britain sends three pounds to farthest India for 24 cents, or 11 pounds for 72 cents. While we, as you know, pay 64 cents for four pounds from Marysville to Chico. By a curious and ridiculous anomaly this same four-pound parcel can be sent all the way to London, England, for 48 cents, 12 cents less than its cost to Chico; so a suit of clothes can be mailed to Marysville from Dublin in Ireland for less than from San Francisco. At the same time for the British public the American Express Cos. carry all parcels up to 11 pounds from New York to any point in the United States for 24 cents. When an American citizen living in his own country wants to send an 11-pound parcel from Pacific Grove to New York, the same experss cos. charge him $2.35 for the same parcel. You need not suppose that the 24-cent rate is given to the Britisher "because they love him so;" simply, there are dollars in the job for the express cos., even at 24 cents. To help to swell the $30, 000, 000 surpluses of the Wells, Fargo Co., and to make possible the 200 per cent stock dividends of the Adams Express Co.

What these express companies do for the foreigner your post office could do for you.

It seems to me irresistibly comical that retail dealers should oppose a cheaper method of getting goods delivered at their doors. From that time on inspired editorials have appeared continually in the press telling the storekeeper that with parcels post in vogue he would be ruined. Who inspired such editorials, it would be easy to guess. The stuff was even published in San Francisco as telegraphed from New York. And under the guise of opposing the Eastern mail order houses, it gave them a splendid free advertisement. It was alleged that parcels post would throw all business into the hands of the mail order houses, who could, would, and did easily undersell the local trader. On this account merchants, as individuals and in their various associations, were vehemently urged to oppose its institution tooth and nail. Certain jobbers in San Francisco even formed an Anti-Parcels Post League. Their organ was the Pacific Coast Merchant. They feared that the retailer would avail himself of the parcels post to buy his goods direct from the various factories, and so benefit himself and his customers. One such jobber with whom I conversed, after trying the mail-order-house talk, frankly admitted that the parcels post would prove a permanent benefit to the local merchant; but, he claimed, would injure the jobber.

As to why the local dealer should be hurt by a parcels post, no one has yet found out. That the persistent calamity howling of the express companies is already becoming ridiculous and ineffective, the recent endorsement of parcels post by the Society of Retail Merchants of New England loudly attests.

On the face of it, the contention as to injury being worked to the local dealer, bore its own refutation .

The parcels rate asked of the post office was 25 cents for 11 pounds. Now it is safe to say that five-sixths of the population of the United States live within such distance of some large mail order house as to get their goods delivered by freight at a rate much less than this two cents per pound. It is also well known that department stores, even in California, already deliver goods from their bargain counters free of all charge for transportation. In spite of this, I am sure you will all acknowledge that in Stockton, Oakland, Berkeley, Sacramento, and even in Marysville, there were never better stores with finer stocks of goods than there are today. This absolutely free delivery has had no such ruinous effects as have been predicted. Moreover, were the mail order business so exceedinglly profitable it would be easily within the bounds of imagination to conceive of branches of these large mail order houses established at San Francisco, Los Angeles or Sacramento sending their goods by freight to buyers at much lower rates than the advocates of a parcels post have suggested.

And by the by, has it ever occured to the Marysville merchants that they were giving these same mail order houses the biggest kind of a boost by getting the press all over the country to proclaim that goods could be bought cheaper of those houses than of the local dealer? Is it not a direct invitation to any wide-awake buyer to purchase of these houses?

I am glad to be here today, not only to tell them that if this is really their argument it is "bad business;" but also that their whole opposition to the parcels post is, as they are now slowly discovering, also "bad business."

In the first place, the parcels post has proved in other countries a most powerful stimulus to trade. The retail merchants would in those countries be the first to object to its impairment or abolition.

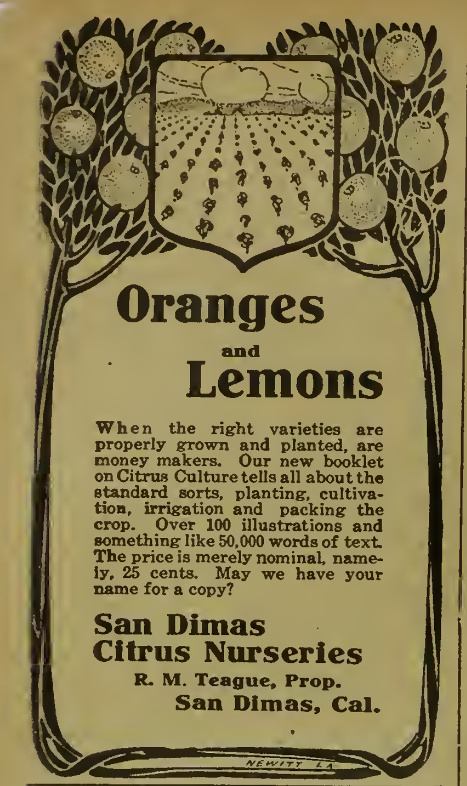
In the second place the lack of a parcels post has been, and is likely to be, the cause of more orders going to mail order houses than otherwise would be the case. Postal rates and express rates on purchases being largely prohibitive, buyers naturally turn to freight rates. To secure these a minimum of one hundred pounds must be paid for. So, if Jones wants only 25 pounds of goods, he suggests to neighbors Smith, Brown and Robinson that they should pool issues, and each send for 25 pounds, dividing the freight charge among them. Jones lends them his mail order catalogue and each selects the goods he needs, and the local dealer thus loses the sale of 100 pounds of goods instead of 25 pounds.

This is the true method of giving the small local merchants a chance to compete with the big houses. It widens his stock and practically multiplies his capital. As to local buyers, there is no doubt they prefer buying things of local dealers, where those dealers understand their business. The average buyer hates to write a letter, or even to fill in an order blank. He wants to see the articles he is to pay for before he parts with his coin. He wants his goods now, and not five or six weeks hence. I am glad, therefore, to learn that those retail merchants who opposed parcels post have reconsidered the matter, and decline any longer to be dupes of the express companies.

Concerning the stale fabrication as to the demand for a parcels post being raised by the Eastern mail order houses, as president of the California Postal Progress League, I can vouch for the fact that not a dollar has reached our treasurer from any one of those houses, and not a single word of encouragement. Of course, if there are individual retailers who choose to cherish the notion that paying exorbitant rates to swell the extravagant dividends of express companies really benefits them and their customers, that is there privilege as citizens of this free Republic. If the experience of the past does not convince them that all improvement of transportation facilities increases commerce, I cannot hope that any argument of mine will avail. He must accept the means at hand to hold his own, and in this struggle with the Eastern mail order houses, the parcels post is the very weapon he wants to aid him in his warfare. By its aid he can stand, if he will only cease telling all the world they can buy cheaper in Chicago than they can of him. The fact of this having been the one stock argument put forward to discredit the parcels post, certainly demonstrates that the express companies and not the merchants, are the real opponents. It is incredible, surely, that any body of intelligent California merchants would be so insane as to spread a report up and down the length and breadth of the land that consumers can profitably send to Chicago for their goods instead of buying at home. I trust our merchants have such abundant good sense as shall lead them to denounce their being any longer made cats' paws to rake out hot chesnuts for the express companies' ravenous maws.

Permit me one word to tell you how British farmers and fruit growers are subserved by the parcels post. By the adoption of packages of size and weight in accord with postal regulations, the British farmer can have his produce taken from his gate by postal motor or wagon,

Continued on Page 127.



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When the right varieties are properly grown and planted, are money makers. Our new booklet on Citrus Culture tells all about the standard sorts, planting, cultivation, irrigation and packing the crop. Over 100 illustrations and something like 50,000 words of text. The price is merely nominal, namely, 25 cents. May we have your name for a copy?

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PASADENA, CAL.
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Send for a copy of Current Investments, which gives complete details.

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Sour and Sweet Orange Seed Bed Plants
The Finest Lot in California

My sour orange plants are grown from seed off the wild orange trees of Florida. Trees grown on this stock are very desirable for planting in heavy soils or lands that are subject to excessive moisture or drouth. Its most valuable feature is its resistance to gum disease.

My sweet orange plants are grown from seed off very large, old Tahiti seedling trees, thus making the very best foundation to grow an orange orchard on. Don't fail to see my stock before you buy, or address

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Fumigating and Lemon Curing Tents our Specialties
Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants
300 slightly used tents, all sizes, for sale cheap.
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Phones—Home, F 4871; S. S., Main 3500
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Valencia Late and Eureka Lemon Trees
Budded high on Florida sour orange stock. Splendid stock. clean and thrifty.
A. D. Paxton, Orange, Cal.

With the Citrus Growers

PROFESSOR MARLATT ON THE WHITE FLY.

WHILE in California Prof. Marlatt inspected the work of the State Horticultural Commission with the White Fly, anr he reports:

"I was very much interested in the examination of the work done by the State Horticultural Commission at Marysville and have been fully advised as to the work at Bakersfield, and it seems to me that if extermination is possible at all, it will be effected by the measures adopted in these two places. Certainly more thorough work could not well be done except absolute extermination of all arboreal vegetation. The occurrence of the White Flly at and near Oroville, more recently discovered, indicates a much more serious condition, and extermination there seems to be a much more difficult proposition. I have no recent report on the work that is being done at Oroville, but I was advised that fumigation was to be the chief reliance. The outcome, will, of course, depend on the thoroughness of fumigation and the discovery and treatment of every infested plant.

"I confess that the foothold which the White Fly has gained in these three localities in California is a distinct surprise to me. It must be said, however, that California during the last two or three years has had exceptional rainfall, and that the regions where the White Fly has appeared have been rather more favorable for it perhaps than the main citrus districts of Southern California. Nevertheless, it has seemingly demonstrated its ability to maintain itself under conditions of considerable dryness. In Florida the main breeding season of the White Fly is the rainy season of the early spring, and its breeding is much checked during the following period of comparative drought; but even in the dry season in Florida (and the last two years have been charcterized by exceptional drought in that State) the moisture conditions are vastly greater than in any of the citrus fruit districts of California, and grass and low vegetation is even now in Florida, after two years of drought, luxuriant enough. I have not given up, therefore, entirely the belief which I have expressed on former occasions that the White Fly cannot have the menace for California that it has for Florida and other gulf coast States. I do not believe that it can survive the high temperature and excessive dryness which often characterizes Southern California in July and August, sufficient, in fact, to often kill out almost completely the black scale. This argument, however, is not suggested with any idea of abating the least the most earnest effort to stamp out the insect, and your commission is warranted in taking most drastic measures and doing the work in the most thorough and efficient manner. The risk is too great to be lightly ignored."

BEST INVESTED DOLLAR.

I enclose one dollar to renew my subscription to the "Cultivator" for 1908. I always consider this the best invested dollar of the whole year.

I wish you all the success possible.
—Chas. F. Collins, El Modello Fruit Ranch, Dinuba.

GUM DISEASE.

Since our recent article on gum disease we have the following from Horticultural Commissioner S. A. Pease of San Bernardino County:

So much trouble is reported about gum disease of citrus trees in one or other of its forms, that I quote from an article on that subject in Bulletin No. 8 of the Florida Experiment Station, entitled: "The Principal Diseases of Citrus Trees in Florida." Sweet seedling orange trees are partiularly susceptible to Gummosis and sweet orange used as stock for budding remains free from attacks, and in Florida its use for this purpose is almost a sure preventive of this disease.

There appears to be quite a demand here for sour stock on this account. Hence, speaking from our standpoint, those wishing sour stock should procure the seed and raise their stock at home, as we do not admit such stock from any locality that is infested with pests not already here.

MEALY BUG.

Commissioner Pease of San Bernardino sends us the following regarding the Mealy bug:

The Mealy bug (Pseudococcus citri,) is evidently becoming more in evidence each year, and as it has proven very difficult to control I will give some of the reasons from my view point:

The Mealy bug, like the wooly louse of the apple (Schizoneura lanigera,) disappears from the tree tops, and I have found it in the earth on the roots.

This would make it impossible to get it by fumigation at this time. And again, after the females have laid their egg masses, they are so well protected by the cottony excretion, that it would be very difficult to get them all by any of the methods in use. Hence, if these pests are on orange trees I should watch them and as soon as they show in force above the ground and before they have laid their eggs fumigate the trees, using double the dosage and also double time of exposure.

CUTTING GOVERNMENT TREES.

People wishing timber from a National Forest apply to the local forest officer, who goes with them and helps to select the timber. The trees are blazed below the stump line, the height of cutting is marked, and a U. S. brand placed upon the tree. After the cutting is done and the brush piled according to instructions, the forts officer inspects it; and if the cutting and brush piling has been done satisfactorily, he gives leave for the timber to be reomved. In localities where the green timber has been much cut away it may be found necessary to protect the remaining trees, and in such localities the Forest Service is glad to cooperate with the settlers in building roads into other bodies of timber.

The following advertisement appeared in the Matin of Paris: "Can any one give me the names of the aeronauts who passed over the village of Rien at 6 o'clock on Thursday evening and who, by throwing down sand, ruined a freshly-made plum tart? Julie Duplat."—Matin.

California Horticulturally

RAVAGES OF FRUIT FLIES.

ONE of the most serious of all fruit pests is the Fruit Fly. This is not one insect but a vhole family; in fact, members of his group belong to several differnt families, but all are two-winged nsects or true flies. All of these ests lay a number of eggs in one lace and, in hatching, the attacked ruit is infested with a mass of rawling maggots. It is the most isgusting class of all the many fruit ests, but fortunately California is, s yet, wholly free from any member f the class. The well known Morelos orange maggot is in this class, nd is not the only or worst member f it. The olive in Europe harbors a pecies which converts the pulp of ie fruit to a rotten mass. It is not iought less of there, however, for il purposes and olives and maggots o to the crusher together. Ausralia has suffered severely from iese pests, and so bad are they that i some sections fruit growing has ecome unprofitable. There is no nown remedy for them, as they haror within the fruit and cannot be eached with any sprays or washes. or do they confine themselves to iy one class of fruit, but attack all, id there seems to be some species r each variety. Hawaii has sufred severely from these pests and ow it is claimed that they will work i the coffee as well as on other uits. For many years it has been most impractical to grow any memers of the melon family in Hawaii, ther cantaloupes, watermelons or icumbers on their account. The ommercial Advertiser of Honolulu, cently speaking of the damage rought by this pest says that Mr. . G. Irwin, who has made extensive sts of coffee, fruit and vegetable rming on this island, expressed the inion not long ago that the melon was doing more damage than it as blamed for. Most people who ved here fifteen and more years ago e aware of the ruin that came to ir cantaloupe crop when the melon appeared, and everybody knows ow watermelons are suffering. But r. Irwin believes, as a result of his vn observation, that the fly also ings the ripening coffee berry and e immature mango. If this is true may be set down as a serious mece to the future agricultural prosrity of the islands.

Thanks to the vigilance of our ate horticultural quarantine ofers, there is little danger to be apehended of this pest ever getting a othold here.

CE GROWING IN SACRAMENTO VALLEY.

At the Irrigation Convention held Sacramento last September, one of e most attractive features was an hibit of rice made by the State of exas. Rice was there shown in all rms; in various stages of growth; illed and unhulled, and in all variees. It was an object lesson to Calrnia, and many people learned cts about this valuable cereal they d never before known. It now ems that California is to be maralled in the line of rice growing ates with Texas, Georgia, Louisana d the others, for an experiment ong this line conducted by G. G. nshaw, in Glenn county, has oven so satisfactory that it will be llowed up and a large acreage will be sown the coming season. The work this season has been experimental and the whole tract sown covered but sixty acres, of which ten acres were got in too late to give returns, but from the other fifty, twenty sacks per acre were harvested. It is the intention of Mr. Hinshaw to put out 300 acres to rice this season. The United States government, too, is arranging to carry on experiments with rice on alkali lands, and altogether it would seem that rice growing is about to become established in California and another and important industry about to be added to our agriculture.

FRUIT GROWERS' CONVENTION IN THE SOUTH.

At the late Fruit Growers' Convention a resolution was introduced and passed favoring two conventions annually in the place of one. One of these to be held in some one of the Northern counties and the other in the South. In accordance with this resolution Commissioner Jeffrey has already taken under consideration the possibility of holding a Fruit Growers' Convention at an early date, probably April or May in some one of the towns of Southern California.

NEW INSECTARY AT SACRAMENTO.

It has now been definitely decided to permenently establish the State insectary on the capitol grounds in Sacramento. Since the time of the earthquake, this establishment has had no permanent resting place. It was crushed out of existence by the quake, and then temporarily removed to Sacramento, then returned to San Francisco. Now an excellent site has been secured on the capitol grounds, a commodious building will be erected and everything arranged for successful work and the breeding and distribution of beneficial insects will be carried on in a systematic manner under the most favorable conditions.

FORTY ACRES GO UNTAXED.

It is reported that a recent act of the Wisconsin legislature permits the owner of any tract of land in the State to set aside a portion not exceeding forty acres for forest culture to be exempted from taxation on that portion of land for a period of thirty years from the time of tree planting. This also applies to firms and corporations.

This is very good. It might well go farther, and allow an unlimited quantity of land to be thus set aside if security is given that the land will be actually kept in forest until the trees are mature.

PURE WATER ON THE FARM.

Absolutely pure water is not to be found in nature. The amount and the nature of the impurities vary widely, depending upon the source of supply and other conditions. Nor are all of these impurities harmful in a water intended for domestic use (and very few of them may be,) but owing to the fact that water may be the agent for spreading certain diseases, it is essential that care be taken to get a supply that is free from harmful constituents.

Impurities may either be dissolved in the water or carried in supension by it; and they may be of animal, vegetable, or mineral origin. Hardness in water is due to the presence of compounds of lime or magnesia. Iron may be present in quantities large enough to make a water unfit for laundry purposes.

Seeds Plants Fruit Trees

Most complete stock in the West, embracing everything new of decided merit in both vegetable and flower seeds. Headquarters for Eucalyptus and other tree seeds. Full line of Fruit Trees and Ornamental Stock.

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Strawberries Strawberries Strawberries

The "Dollar" Berry The most prolific and best shipping strawberry ever placed on the market. The best berry produced by the best berry country. This berry was produced in Placer County and has met with complete success wherever introduced.

Plants Plants Plants

Other breeders quote you "Dollar" plants at from $5.00 to $10.00 per thousand. Our price, $2.50 per thousand, f. o. b. Loomis, Cal. Rush your order if you want them for they will go like "Hot Cakes" at this very low price. Address

Live Stock and Dairy Journal Experimental Farm
Loomis, Placer Co., Cal.

We planted 20 acres of ***Burbank Phenomenals*** last year. Watch our prices on plants for 1909.

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Try our specially selected strains of all vegetable, tree and flower seed. No one can secure a better quality. Absolutely all fresh.

ROCKYFORD MELON.
Morris & Snow's—Special selected for shape and size.
Every melon picked in best season, and carefully selected. One pound, sealed packages, $2.00; one-fourth pound, 60c.
A very fine strain of this melon, 90c per pound.

WATER MELON—Chilian—(The most perfect melon on earth).
Morris & Snow's special selected stock.
Every melon was perfect and picked in early season. No "cull melon" seed go into our stock. When cut, every melon was carefully examined and if not up to standard was rejected. This extra select stock in sealed packages, at $1.50 per pound; one-fourth pound, 40c.

EUCALYPTUS Seed and plants in any quantity. Call or write for our Catalogue.

MORRIS & SNOW, 555 So. Main, Los Angeles

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OR PAIN KILLER FOR THE HUMAN BODY
Gombault's Caustic Balsam
IT HAS NO EQUAL

For the Human Body —It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons Exterior Cancers, Boils Corns and Bunions CAUSTIC BALSAM has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

A Perfectly Safe and Reliable Remedy for
Sore Throat
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Sore Lungs
Rheumatism
and
all Stiff Joints

REMOVES THE SORENESS--STRENGTHENS MUSCLES
Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than $120.00 paid in doctor's bills." OTTO A. BEYER.
Price $1.50 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet R.
The LAWRENCE-WILLIAMS COMPANY, Cleveland, O.

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38 Dairy Cows
Tuesday, Feb. 4
10 A. M. on the J. L. Palmer Ranch at
Compton

38 fine dairy and family cows, Jerseys, Holsteins and Durhams, fresh and coming fresh, young and in fair condition. This stock was formerly in the herd of H. H. Davis, near Downey, one of the finest dairy herds in Southern California. Is removed to the above ranch for convenience of sale and must and will positively go to the highest bidders. No reserve or limit. TERMS CASH. RHOADES & RHOADES, Auctioneers, Office 830-32 South Main St., Los Angeles.

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Successor to Peabody Wall Co.
Registered Jersey Cattle
Several young Bulls for sale. Also the famous B. B. Marigold Bull, 5 years old.
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Young stock for sale. Address
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FOR SALE—RICHLY-BRED YOUNG bulls from cow having High Official Yearly Records. Also a few heifer calves of best breeding. For particulars address.
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Thoroughbred Poland China Swine
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High Grade Stock of Best Strains.
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18 head of Thoroughbred Poland Chinas of both sexes, some of them weigh 150 pounds. W. R. McCaslin, R.F.D., Oak Park, Sac. Co., Cal. Roosevelt Ave

Live Stock and Dairy

COW COMFORT.

THE ordinary dairyman using grade cows will find it pays him well to raise the cows for his own herd. As a rule, the purchasing of grown cows from time to time loads him up with culls, mistakes of everybody's bad breeding. Without he has a regular breeder of cows to buy from, that sells his cows as a crop, he will have hard work to find cows that are good for his purpose. Where feed is not too high in price, the dairyman should raise the calves of his best cows. Around large cities some of the dairymen ship all their heifer calves to outside farmers, who return one-fourth of the fresh heifers each year in payment.

Mixed Comfort.

The heifers or cows under one system of feeding and one strain of blood are more homeogenous in type. A herd whose dams have been fed alike, that are themselves alike, and bred alike, will in their turn feed alike. The fact of unlike feeding is easily demonstrated in any herd. There are in mixed lots always some cows that do not receive enough feed. I have taken cows, that always ate up everything they could reach in the stables to another barn, fed them until they left a little each time. These cows at once increased their production. It then was simply a matter of calculating as to how much these additional pounds of butter cost. These cows often did not return as great a per cent of cash for food consumed as the smaller eaters. While this experiment was not carried out further, yet it was always noticed that the cross bred cow did not pay returns for excessive feeding, they paid on an average ration. The cross bred cows used were Holstein on Jersey and Shorthorn cows. The vigor of these crosses is marvelous and the gross appetite goes with it. It is a pointer to the road to increased vigor. In the human family we know that the Anglo Saxon tenacity crossed on the firey, impetuosity of the Norman made the English race of conquerors. Now when our dairy cattle begin to run out through fineness a cross for one generation on to the more rugged beef stock will bring back stamina, though for one or two generations it will reduce production.

Early Milking.

The proper age to have a cow freshen is about thirty months. Certainly not under twenty-eight or to exceed thirty-two. This age gives the animal a chance to fully mature itself, and it gives the young calf dropped a chance to have some constitution. In a full blood herd there are many heifers that come into milking before they calve. The heifer herd has to be watched on this account. When the udder fills with milk put the heifer into the regular milking string. Then begin to feed her grain until she is on rather richer feed than the mature cow. A little oil cake, half a pound a day, will not be amiss in her feed at this time. It is almost certain to destroy the heifer's value as a milker to attempt to dry her off when the milk once starts to form freely. These heifers make continuous milkers, and they can only be starved out of giving milk. That is a foolish way, for many cows never recover from the effects. I have sold cows of this type that have been ruined by their new owners. These men declared it was cruel to keep a cow in milk so long. Yes, superficially thinking, it may seem cruel, but when a cow has been bred to heavy producing, it is hard to make her go dry. I had at one time ten cows with half udders that I had been foolish enough to persist in drying off. What some of those poor animals suffered. I used to try to help ease their pain, and have stood and cried over them. Anyone that has had a felon can understand what a cow must suffer with a congested udder. A finger after all is nothing like a sensitive udder and teats.

Early Breeding.

The tendency to breed too early is common in California. It is wrong, as it tends to decrease the size of the cow and to lessen her physical vigor. The first year is not apt to be profitable, and the heifer is sacrificed to a mistaken notion that she is wasting time if she is left to mature before taking up her life work of milk making. The government is now considering the safeguarding of the peoples' health as a matter of great importance. The man who has constantly forced his heifers to milk at an early age will have decreased the vigor of his herd until many of them are fit victims for the germs of tuberculosis. The lessened vigor of the cows bring weakness, and with this comes barrenness and all like troubles. The herd will soon become self limiting and die off early.

A Case.

The following is taken from a letter of a correspondent to an Eastern paper. It came from a town not a hundred miles from Los Angeles: "I send you a photograph of a Jersey heifer which was served when five months old." Let us be charitable

ONCE A YEAR NOT OFTEN ENOUGH.

The recent Live Stock Edition of the Cultivator is a strong paper and will bear the closest reading. Once a year is not sufficient to turn out such a special paper and do the service which it should to the stockmen of this State. Men forget too much in a twelvemonth. Give such issues oftener and it will be of mutual benefit to stockmen and your paper. Respectfully yours,

JOHN LYNCH.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Veterinary Instruments, Black Leg and Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Wood Sole Boots and Shoes
We wish to call your attention to the fact that we have a large stock of Wood Sole Boots and Shoes of the very best quality. The Uppers are made of the very best quality Milwaukee Oil Grain. The Soles are well-shaped, and are an exact and comfortable fit, and our ***Patented Fastening*** makes this a ***Waterproof*** Shoe. We all know wood is a non-conductor, consequently it is much drier and a great deal ***warmer*** in Winter. They are lighter than Rubber or Leather Shoes and Boots. Shoes, $2.00; Boots, $3.25.
O. J. Weber Co. 555-557 S. Los Angeles St., Los Angeles, Cal.

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The Sharples Dairy Tubular is the cream of cream separators—the pick of the whole bunch. Supply can waist low, you can fill it with one hand. All gears enclosed, dirt free, absolutely self-oiling—no oil holes, no bother—needs only a spoonful of oil once or twice a week—uses same oil over and over. Has twice the skimming force of any other separator—skims twice as clean. Holds world's record for clean skimming.

Bowl so simple you can wash it in 3 minutes—much lighter than others—easier handled. Bowl hung from a single frictionless ball bearing—runs so light you can sit while turning. Only one Tubular—the Sharples. It's modern. Others are old style. Every exclusive Tubular feature an advantage to you, and fully patented. Every Tubular thoroughly tested in factory and sold under unlimited guaranty. Write immediately for catalog J-260 and ask for free copy of our valuable book, "Business Dairying."
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Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to
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enough to hope this was an accident, even if the owner neglects to mention it. It is hard to think that any one could be greedy enough to start this tiny calf into a cow so early in life. Continuing the writer says: "Four months after I found her udder was full of milk. Thinking she had aborted in pasture I commenced milking her, she being such a calf and milking so early. I weighed her milk; I was surprised by her calving on time, proving no aborting, after giving 1500 pounds of milk, testing 5.2 per cent of butter fat." This calf may have gone on all right to cowhood, but what about the future generations? Will it be possible to repeat this year after year and have cows give milk that is full of the life sustaining food for the human family?—M. E. Sherman, Fresno.

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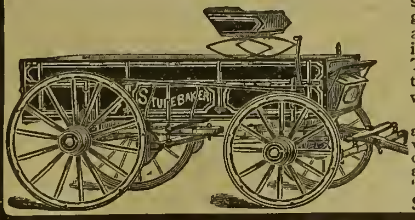

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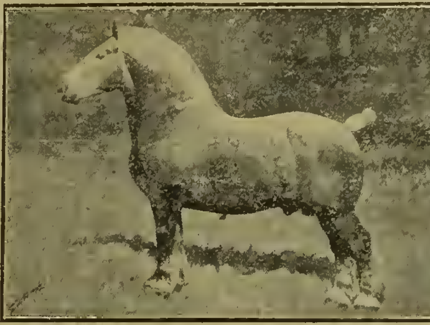

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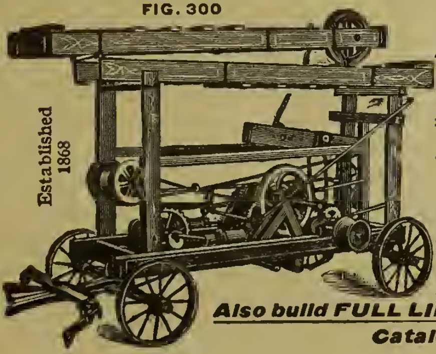

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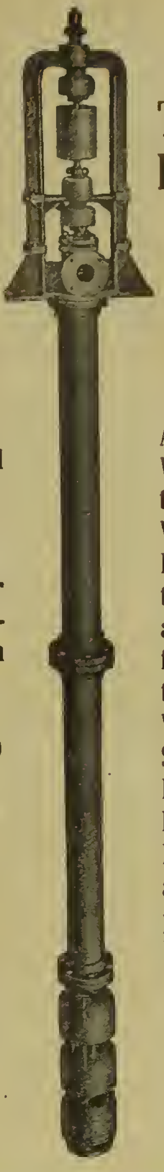

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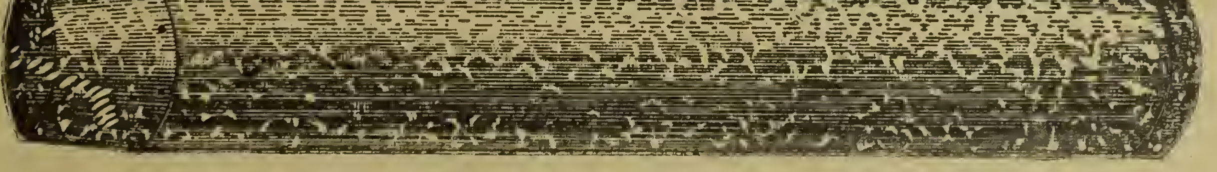

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Deciduous Fruit Culture

SULPHURED FRUIT.

FROM the address of J. L. Mosher of San Jose, delivered at the San Francisco convention of deciduous fruit growers, we quote:

"I have had consideable experience (some twenty-five years) in curing and evaporating fruit—was a member of the State Board of Horticulture for years and during that time conducted many experiments. Have built all kinds of evaporators and spent several thousand dollars in trying to discover a better process than those now in use. I believe this whole sulphuring business has become a gigantic "bug-a-boo," not from the sulphuring alone, but the sulphate of zinc.

"It is and has been the universal custom in evaporating fruit in driers to use galvanized wire trays (that is, iron wire covered with a coating of zinc, and called "galvanized.") The acid of the fruit comes in contact with the galvanizing, which causes an effervescing which dissolves some of the zinc and when evaporated some of it sticks to the fruit and some falls in flakes upon the fruit underneath. Fruit that has been placed on galvanized trays, sulphured and evaporated contains this sulphate of zinc—a deadly poison. Take some of the fruit that has been dried as above and that part that has been in contact with the galvanized wire and draw it across your tongue and you can taste it for half an hour afterwards, a sharp peppery taste, and this substance is certainly detrimental to health.

"My experiments have cost me time and money. For instance, one that will interest you. I have made 2000 trays 2x3 feet, galvanized wire, costing me $1 each. My experiments were mostly with apricots, a very difficult and stubborn fruit to evaporate, strongly aciduous. I found the deposit of galvanizing very pronounced, being easily detected when the fruit was cooked. I also discovered that after using the trays several times the galvanizing was nearly all gone in places, having been dissolved by the acid of the fruit. I also found these flakes of dissolved galvanizing in such quantities that it could be easily scraped up from the bottom of the evaporator. I set my wits to work to overcome this trouble. I took a dozen trays to San Francisco and had W. W. Montague & Co. "Japan" them for me. This was expensive, so they instructed me how to build a brick oven and "Japan" them myself at the ranch. This I did quite satisfactorily at a cost of about twenty-five cents each, $500 for the lot; but I still had trouble, the fruit would stick so tightly to the "Japanning" that it would often come off the tray sticking to the fruit and making it unsalable. My experiments at this time soon culminated in the loss of the whole plant by fire. No insurance. Insurance companies will not insure evaporators.

"Now, Mr. President, I am strongly inclined to believe that this whole matter of sulphur being detrimental to the masses has its origin from the sulphates of galvanizing, and I am positive that all acid fruits dried on galvanized trays are detrimental to health, and yet apples, peaches, etc., have been dried this way for years and shipped all over the world. Now, if we take apricots, cut them open and place them on trays in the sun without sulphuring, they will soon commence to ferment, which causes them to turn dark and the juice will ooze out and turn sour, and when they are dry what have we—a black shriveled up stuff that has a sour wine taste. Place this fruit beside the properly sulphured and dried apricot and see what a difference; cook it also and taste what a difference. So you may see the principal object of sulphur fumes is to stop fermentation.

"Chemists have found slight traces of sulphur. Have they not been testing fruit dried on wire trays? Have the medical faculty pronounced the slight trace of sulphur found in properly dried fruit detrimental. I have been taught from my youth up that sulphur was the best blood medicine in the world for man or beast, and have we not all of us been doped with it by the tablespoonfuls and still live and have good health?

"The fruit growers believe the proper sulphuring the right and only way of curing fruit, but there are some evils that do not meet their views, as follows: Every packing house has sulphuring houses, although they do not dry any fruit. They use these houses for processing certain dried fruit after it has left the fruit growers' and driers' possession. I am not familiar with their methods, but understand the fruit is soaked and then heavily sulphured for the purpose of gaining weight and color. This should be investigated, for herein may be one reason for the cry of too much sulphur, and, if true, should be abolished. Also the drying of fruit on galvanized trays should immediately cease all over the United States.

"Now it has been suggested that our apricots be evaporated by building evaporators and drying them on steam coils. As I have said before, apricots (unlike apples) are a stubborn fruit to evaporate. Can you imagine what an enormous outlay it would rejoice? And then it would not be a success. I know it. I have tried it thoroughly. It is only a suggestion not founded on practical experience. What would we do with our thousands of tons of apricots that must be handled in a few days? Just stop and think. Are we to lose one of the greatest resources that has made California famous? The California apricot finds its way to every known part of the world. It is found on long sea voyages, on the whaling vessels as a preventative of the scurvy; it is found and sought for in the torrid climates, where fever abounds. If more apricots could be sent to the builders of the Panama canal there would be less graves.

"Mr. President, this is a grave and serious question, and the cry of the fruitgrower is, "Give us justice!"

MORE ABOUT SULPHUR.

There are two sides to all questions. The sulphuring of fruit is no exception. Possibily all growers wish that there were some method of curing fruit which might dispense with the use of sulphur and still produce an attractive article of food. That process has never yet been presented, though it is now promised.

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cannot accept promises of a process which they believe to be impracticable, and are free to censure Dr. Wiley for injuring the industry without consideration of its full meaning to the growers.

However, here is a communication from a fruit grower, Paul Thomsen of Aguanga, Riverside Co., which supports Dr. Wiley's position:

In your paper of Jan. 16th, I read the protest of dried friut producers, and as I am a fruit grower myself I am much interested in this matter. I sincerely hope that Dr. Wiley will succeed in devising a method to dry our fruit in such manner as to produce a wholesome and healthful article. I have faith in our government in Washington. I have watched it and studied it and I believe those in charge are trying to do the best for the country. The statement in your paper that it has been proven that it is not only free from harmful effects, but absolutely healthy, I do not believe is correct.

I have gone from store to store when I lived in town trying to find some unsulphured fruit, because I don't like the taste of it. One groceryman told me that he knows it was not good. He had taken pounds of soda because he had ruined his stomach on sulphured fruit; he said there has never been a reform without a fight. I hope the good and true will survive. I have never sulphured any of my fruit yet, but as the most of my trees are young I have only dried on a small scale, and if Dr. Wiley don't succeed in devising some way to dry on a large scale without destroying the fine flavor and healthfulness of the fruit I think I shall.

For the benefit of your readers would you please write to Dr. Wiley and ask him what it is that the sulphur smoke deposits on the fruit and what effect it has on those who eat it?—Paul Thomsen.

No, we did not say that the fruit is absolutely healthy, but did say, "but along this line attention is called to the fact that our sulphured fruits shipped into the German markets and at first denied admittance were afterwards admitted because it was conclusively shown that they were perfectly healthful."

We did not add, but might have done so, that the German government is extremely careful in its examinations of imported food stuffs, and we do not believe it would ever have admitted California sulphured fruit unless it was proven healthful.

Now, all growers are anxious for improved methods, and whether from Dr. Wiley or the writer of the above letter, any such improvement will be received with open arms. But as shown by another writer in this issue, it will not be the first effort to devise such method by any means. But until such improvement is presented, fruit growers who have invested their all should not be ruined.

The question which Mr. Thomsen wishes us to ask Dr. Wiley is answered in Circular 37 of the Bureau of Chemistry, Department of Agriculture, and can be had by writing to Washington. Its full title is "General Results of the Investigation Showing the Effect of Sulpurous Acid and Sulphites Upon Digestion and Health," and it is by H. W. Wiley, Chicf of Bureau of Chemistry.

Rialto fruit growers are having trouble with the supervisors of the county who threaten removal of trees which are not on the proper line along the street. The growers desire the trees to be kept because of their value as wind breaks.

The rainfall at Healdsburg to date amounts to 12.04 as against 19.18 last year.

FERTILIZING GRAPES.

In a preliminary report published in "Revue Viticole" regarding some experiments in the fertilization of grape vines, there are some interesting facts which are at least suggestive to the California grape grower. The report covers three years of experimental work, and Professor Verdie who has had the experiments in charge, finally draws the conclusion that he favors a combined fertilizer for vineyards located on a sandy, non-calcareous soil, consisting of one part dried blood, two parts sulphate of potash, eight parts basic slag and four parts gypsum. He reacnes the interesting conclusion that growers are warranted in using chemical fertilizers in the manuring of vines for the production of high grade wines. Although nitrogen increased the vigor of the vines where the amount used was large, the quality of them must appear to be less rich than in plants where the nitrogen content was small. The writer states his belief that potash has a decided influence on the quality of the fruit and must, and recommends the use of the complete fertilizer indicated above, including the gypsum. If we apply this recommendation to the California conditions where very many of our vineyards are located upon sandy soils, it will probably be unnecessary to apply the gypsum on account of the highly calareous nature of these soils. Still there is good reason to consider it as worth trying, because the gypsum has a marked influence in rendering plant food available. We may suggest as an experiment, the applicatin of 100 pounds of dried blood, 200 pounds sulphate of potash, 300 pounds Thomas phosphate and 400 pounds of gypsum to the acre.

The grape is a crop which is likely to show good results from the use of potash. It is a gross feeder on this side of plant food. As compared with citrus fruits, it removes at least a fourth more potash, a half more phosphoric acid and only about half as much nitrogen. While the nitrogen may be added to the vineyard by the use of leguminous crops to be turned under, it is possible to add the mineral fertilizers, potash and phosphoric acid in no other way than by direct application.

As to whether it is or not best to use commercial fertilizers, it may be said that this cannot always be determined from a soil analysis. The question may be reduced to a practical commercial one, viz.: Can we produce enough important products to pay for the added cost of the plant food and labor, leaving a surplus for profit? If we can determine this to be the case by experiment, then it matters not what may be the soil composition; it will pay to use the fertilizer to form a growth and crop within the limit of safety and of health of the plant.

As to the use of nitrogenous matter for the grape, it may be said that stable manure is not generally looked upon with much favor, as it is said to induce fungus attacks by weakening the vitality of the plant. Much better results can be had by the growing of legumes and crops between the rows and encouraging the larger growth of such crops by the additions of potash and phosphoric acid. By such a system the vineyardist not only adds to the store of plant food in his soil, but at the same time vastly improves its physical condition.—George Wright.

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We have a large stock and are offering them at low prices. There is money in almonds. The Hatch varieties sold for 14c to 18c a pound this year. We can now supply Texas Prolific, the frost proof variety. Try a few trees.

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PRODUCE MARKETS.—Los Angeles Market; San Francisco Market; Eastern Citrus Markets; Citrus Shipments; Local Conditions, 126, 127.

LET US HELP EACH OTHER.

The aim of the Cultivator is to advance those things which are of most importance to the agricultural interests of the State. To that end it is constantly advocating best plans and the best way to work out those plans. We need so many things in this great and growing commonwealth; the question is, how shall they be obtained? Now, the Cultivator can and will bend its efforts to advance every interest which affects the farmer. It has a great constituency of readers, over 12,000 weekly, and it is in the eyes of the men who frame the laws and do things in California. But to accomplish the results desired takes time work and money, and they can be accomplished only when we are supported by the intelligent thought and earnest efforts of the best element. We ask this support on the ground of merit and shall make every effort to give full value for such support. This support can be made effective by our readers in making an active campaign for us. We want a continually growing subscription list, and our friends can do more effective work for us than we can for ourselves. The results of some of our campaigns are well known, and appreciation of them is shown on every hand. In supporting us our readers are supporting their own cause. We need markets. We need home markets. The markets we most need are to be right at our doors. We need manufacturing enterprises. If we are ever successfully to diversify our productions we must have the markets in which to sell the products.

We need an awakening on the part of the farmers to the value of our Farmers' Institutes. Professors Neff, in Southern California, and Clarke, in the northern half of the State, are doing splendid service in this work, but they need heartier support. They need more money for institute work. Prof. Wickson is zealous in his endeavor to promote the agricultural college, but he stands in need of a greater appropriation to do those things which are absolutely essential to be done right away.

And we need good roads. "Lord, how we need 'em." We must have good roads. Every farmer needs a good road to his town market. He is entitled to have this, and as the Cultivator has said dozens of times, and its editor on many public occasions, at farmers' institutes, we want him to demand this. He should repeat his demands in terms so emphatic that the Legislature of the State will sit up and take notice of his appeals. He should be satisfied with nothing less, and he should voice his dissatisfaction until he gets what he is entitled to along this line. Now, the Cultivator is behind the good roads movement. It started the campaign five years ago, and it doesn't propose to cease its efforts until good roads are a feature of the industrial work of California. But it needs the backing of the people. It cannot accomplish the work alone. It must have assistance. The larger the circulation of the paper the greater will be its influence. That is why we want every reader of the Cultivator to help us extend its membership.

Will you do this? Help us. We'll help you.

AN OPENING FOR YOUNG MEN.

Coming from the East a young man often finds it difficult to obtain the kind of employment he desires. If he has been a resident of the Middle West he is used to large farms and his crops have been corn, oats, hay, cattle and hogs. There he was used to farming on a big scale and when he looks around and sees ten and twenty acre ranches he naturally wonders how people make a living on so small a parcel of ground.

We are often asked by young men where to find the best opening in the line of farm wark in California. Our answer is in the market gardening business. With ten acres of land a man can find as much work and take off as much crop, measured in dollars, as he can from a hundred acres back east. One will hardly believe this until he has made the experiment. If he has farmed intelligently, produced what his local market demands, he will find that his labor brings him in a satisfactory revenue.

Almost any hustling young man can raise the money to rent or even make a purchase payment on ten acres, and with a little cash for tools and seeds he is ready to go ahead. It may seem at first that gardening as a business is overcrowded, but remember that there is always sale for first-class stuff and that is what you must endeavor to produce If you have the right kind of stuff you will never lack for buyers. In most localities not half of the farmers grow enough garden for their own use. They have a little early stuff, but for onions and late cabbage and sweet potatoes and even Irish potatoes they depend on the gardeners near town. In many places, even where there is no town trade, a man can do well on his farmer trade.

The growth in population, of California, is so great there is no danger of overdoing the market garden business for many years to come. Almost the whole country will soon be suburban towns and in view of this young men can never go wrong when they engage in the lucrative employment of market gardening. We know two women who are working five acres on a rental proposition who last year cleared more money than they could have cleared tending school. They were out of health when they went into the business, today they are strong and consequently happy. They got well from tho outdoor exercise.

IT'S UP TO THE FARMER.

There is an effort being made by the forces which make for good in this State to incite the agricultural classes to a greater appreciation of their opportunities. We may embrace in this class of workers the State Agricultural College, the weekly and monthly periodicals whose energies are devoted to bettering conditions among farmers, the Farmers' Institute workers and the up-to-date agriculturist who is anxious that his neighbor shall make the best use of his time and circumstances, to the end that he may advance his own interests and increase the productive power of the soil. California possesses a wonderful climate, a soil of unsurpassed fertility, markets at easy command, and all the water needed to mature whatever crop is desired, and yet no one believes, or affects to believe, we have more than superficially entered on the domain of agricultural science. In short, we are not beginning to make the best use of our advantages.

There are many intelligent, progressive farmers in this State and they are making a splendid success of their endeavors. But likewise there are many who are not. They are indolent, shiftless, non-progressive, will not read farm papers nor take any interest in their work. Such men are a detriment to the State and to the community in which they live. It is these—the careless and indifferent, the slothful and ignorant, who need to have awakened in them a strong and enthusiastic faith in agriculture and an assurance that there is no profession that gives better returns for the brawn and brain invested. It is these who the progressive farmers must help to reach and help to educate to take pride in their calling. This can be done by encouraging them to read good farm papers, to attend the Farmers' Institutes and to think along lines of improvement.

California is capable of feeding the United States alone if the possibilities of its soil and climate were fairly understood and worked out to their limit. If we can, by a proper understanding of our resources, raise twice or thrice what we do today, we shall be that much richer and at a minimum expense of time and labor. Yes, the future of agriculture in this State is up to the farmer alone.

Prof. Wickson of the State University has issued a statement in which he scorns the position of Dr. Wiley of the Department of Agriculture, and maintains that the salt process recommended for curing dried fruit, is of no value. The Cultivator will give more space to the letter next week.

Shop Talk

AGENTS—A short time ago we stated in this column that most of our traveling agents had been withdrawn. We did not say that we had abandoned entirely this method of making our collections, and in some sections we still have some agents at work. We will say, however, that any who may call upon you will be able to show his authority to represent us.

Will also add that in those sections where an agent is not working, or is not soon to work, we will mail notices from this office, and you will understand that you must remit direct to us.

We think it well to make this anouncement so all will understand that if you receive no notice you may expect an agent to make collection before very long.

We would call attention again this week to the book which answers the **500 HOG QUESTIONS** and which is advertised on page 122.

Our readers seemed to appreciate the recent offer which we made, so we will continue it a while longer.

To those remitting on their subscription account, and paying an entire year in advance, we will, on request, order the book mailed to them. The remittance must come direct to the office and must pay an entire year in advance.

FAVORABLE COMMENT.

E. B., Mecca, says: "I don't see where I could suggest any improvement in the Cultivator. The hints I have received from reading your paper has many times covered the subscription price."

G. W. C., of Santa Maria, says: "Please send the Cultivator along. I do not want it to stop for it is the best paper in the State of its kind."

C. W. C., of Fresno, California, says: "I am well pleased with the Cultivator. I do not wish to flatter tho management of the paper, but its equal is not published on the coast. I am one of the Cultivator's first subscribers here and would not do without it."

Agricultural Notes of the Pacific Coast

Northern California

Petaluma has a new incubator facory.

Anderson offers a fine opening for a reamery.

Sonoma county reports less pear light than last year.

The premium list of the Cloverdale itrus Fair has been issued.

Bennett valley Grange will have a eap year ball February 8th.

The acreage of beet planting in hico will be greatly enlarged.

The Republican State Convention vill be held in Sacramento May 14 .

Farmers of Placer county are sowng an immense amount of grain.

Gridley fruit growers will plant xtensively of almonds during this eason.

Soil expert Mackie of the departnent is making investigations at ridley.

Sacramento valley will make an exibition of its products at the Alaska-ukon Exposition.

The Northside Irrigation Company s making surveys for a canal to carry vater to Henleyville.

Three carloads of creamery mahinery have been received at the new tate Farm at Davis.

Anderson shipped two carloads of ops last week the price ranging rom 3 3-4 to 5 1-2 cents.

Extensive experiments will be made his season at Woodland in the pickng of hops by machinery.

State Horticultural Commissioner, effrey, recently addressed a comany of fruit growers at Yreka.

Stockmen near Yreka are rejoicing ver the mild season which has alowed better range for cattle than sual.

C. L. Marlatt, of the Bureau of Enomology, has highly commended the tate Horticultural Commission for e very effective work in the control f the White Fly.

State Commissioner Jeffrey, has reorted that of the fruit and trees reeived at San Francisco during the st year, fifteen and one-half per ent were destroyed because of disase or pests.

At a meeting of the sheepmen of e State at the Sacramento Chamer of Commerce, the organization of e California Wool Growers' Associaon was effected. C. A. Kimball, of anford was elected president and A. . Elseon was elected secretary, and e executive committee was as folows: Henry Glide, of Sacramento, . L. McCoy of Red Bluff, J. H. Hoyt f Suisun, T. H. Giarnella of Honcut, . Bullard of Woodland.

Petaluma grange recently installed fficers as follows: Worthy Master, . M. Winans; overseer, J. W. Mcally; lecturer, Mrs. Ella Cameron; teward, Mary E. Winans; assistant teward, Frank O'Conner; chaplain, rs. Eliza E. Grover; treasurer, race E. Bennett; secretary, M. Ella cPhail; gatekeeper, J. Rodenhurst; omona, Miss Alice Kelsey; Flora, iss Edith Squires; Ceres, Mrs. A. . Hall; lady assistant steward, Miss assie McGlynn; pianist, Miss Nellie rover; trustee for 3 years, A. S. all.

Central California

Delano grain prospects are good.

Japanese are leasing quantities of land near Watsonville.

San Jose Grange is making a strong fight against the sulphur ruling.

Salinas is anticipating a reservoir, the dam for which will cost nearly $300,000.

Wheat growing is giving way over the San Joaquin valley to barley growing.

A permanent organization of fruit growers has been effected at Hollister.

Livingston, Merced county, will plant about 3000 acres of grape vines this year.

San Benito proposes to be one of the greatest egg shipping centers of this State.

W. H. Volck, commissioner for Santa Cruz county, hopes he has a remedy for the Tussock moth.

Impetus to irrigation of the mountain valleys near Tehachepi has been given by the discovery of wells in that section.

A bulb company at Santa Cruz has shipped large quantities of Paper-white narcissus and daffodils to Los Angeles and other large markets.

C. H. Shinn attended the meeting of stock growers at Fresno recently and assured them every possible privilege would be extended in grazing permits.

The Central California Produce Company has been organized at Turlock. It will conduct the business of packing and shipping the fruit of its members.

Thousands of wild geese have invaded the grain fields at Angiola, in Tulare county, and done great damage. One farmer with his two sons destroyed 118 of the fowls in a single forenoon.

A good flow of artesian water has been developed on a ranch on the west side of the San Joaquin valley about 20 miles west of the city of Hanford. This will be a great advantage to that section, which is known to be very fertile but lacking in water.

A Santa Rosa fruit grower who has sold to Guggenhime Company had its fruit accepted and paid for, but later after shipping to San Francisco, it was objected to because improperly cured. It was then returned to the grower and suit begun against him for the money paid. The court has decreed that the purchasing firm cannot recover money from the grower as fruit should have been objected to when first purchased.

The Tulare Grange has elected the following officers for the ensuing term: J. T. Lawrence, W. M.; C. A. Henry, overseer; John Tuohy, lecturer; F. H. Styles, steward; A. J. Woads, assistant steward; Elsie Fay, chaplain; George Watts, treasurer; Bertha I. Morris, secretary; Hy Hunsaker, G. E.; Fannie Way, Pomona, Ada Griffith, Flora, Emma Lowman, Ceres, Mrs. E. B. Lawson, L. A. S.; Mrs. F. H. Styles, organist. The installation was conducted by retiring Worthy Master F. H. Styles, assisted by Past Worthy Master Miss A. O. Swanson.

Southern California

Orange picking has been stopped by the recent rains.

The Redlands olive works are running on pickles and oil both night and day.

Hemet ranchers are plowing and putting in grain to a greater extent than usual.

Riverside has shipped about 700 cars of citrus fruits of which nearly 100 are lemons.

The growing of beans will be one of the industries of Imperial valley the coming season.

Farmers near Thermal, Riverside county, are growing some good samples of sugar beets.

D. G. Aplin is president and E. R. Baker secretary of Water Company No. 1, Imperial valley.

Mill Creek Canyon is to have a large number of new trails to aid forest rangers in their work.

Four species of pines are being planted at the Lytle Creek Canyon, National Forestry Nursery.

Three thousand acres of eucalyptus will be planted on the Bixby ranch near Long Beach this year.

Los Angeles has secured the next National Live Stock Association Convention, to be held in January, 1909.

Boyle Heights, Los Angeles, is to have the honor of securing the first tree-lined boulevard under the State Tree Planting Act.

A large New York fruit buyer says that no fruit shippers in the world equal California orange packers in a tasty fruit packages.

Orange growers say that this has been the most favorable season for maturing fine oranges ever granted to Southern California.

The orange growers of Southern California have been made happy this year by having plenty of refrigerator cars for shipping of oranges.

A legal battle for the control of the great watershed on the desert side of the San Bernardino mountains is on between the Westwater Power & Water Company and the Arrowhead Power & Water Company.

The company owning the salt works which were destroyed by the break in the Colorado river, filling the Salton Sea, has been awarded $450,000 in its damage suit against the California Development Company.

Indio is making a trial planting of 75 Pistachio trees, which have been sent to the Government Experimental Station. The nuts from these trees sell in the open market at from $1.00 to $1.25 a pound, it is claimed.

Lemons are giving a remarkable growth this season owing to the favorable conditions prevailing, the weather at no time being cold so that young fruit, often blasted by the cold nights, has continued to gow and mature.

E. L. Goodsell, of the large fruit auction company of New York, visiting in Riverside, says that the quality of Florida oranges this year has not been equal to those of the past, while those in California have been greatly increased. Mr. Goodsell of New York city will yet handle 100 cars of California oranges.

The Coast

A beet sugar factory is to be erected at Los Vegas the coming season.

Oregon is to provide $150,000 to aid in irrigation movements the coming year.

A vetch grower in Oregon produced $800 worth of seed on 16 acres last year.

Some sales of hops at Salem, Oregon, have been made at 10 and 11 cents.

The Colorado Grain & Seed Growers' Association met in Denver last week.

Fruit growers at North Yakima are petitioning for a horticultural inspector.

Hog cholera has broken out in Palouse, Washington, and is doing much damage.

The creamery at Dillon, Montana, has closed because of want of cows in that section.

In less than a week 300,000 bushels of wheat were sold at Walla Walla, Washington.

Wheelan, Washington, has reorganized its grange which has been dead for several years.

The Polk County Mohair Association held a show at Dallas, Oregon, January 16th 18th.

The finest exhibit of apples was made at the State Fruit Growers' Convention at Oregon.

The prices of onions have advanced in Seattle, and it is said the market is fairly well cleaned up.

The Oregon State Poultry Association closed its thirteenth annual show most successfully last week.

White farm hands have combined and driven Greeks and Japanese from the neighborhood of Boise, Idaho.

The annual meeting of the Washington State Horticultural Society is being held in Walla Walla this week.

Utah had the most successful farmers' school at its State Agricultural College which it has held in its history.

The town of Toppenish, Washington, which formerly shipped 10,000 "cayuses" a year, shipped only 500 last year.

Fruit growers at Medford claim that the Rogue river valley will soon be sending 400 train loads of apples to market.

The Lane County Fruit & Vegetable Growers' Association has been organized at Eugene, Oregon. It will market fruit and vegetables.

A large representation of "dry farmers" met in convention at Salt Lake City last week, and discussed the various methods of dry culture.

Vetch growers at Tangent, Oregon, have formed a vetch growers' union. This union has advanced the price of vetch seed from $1.25 to $3.25 per hundred.

Shippers of the better grade apples from the Oregon apple sections are complaining because the scarcity has caused the shipment of inferior fruit this year.

The fruit growers of the Northwest have complained bitterly over the rejection of prunes during the past season. Over thirty cars have been rejected because of moldy fruit.

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The Ornamental Garden

THE ROYAL WALNUT.

I WAS glad to see the Cultivator thought the introduction of the Royal walnut of sufficient interest to warrant the reproduction of the photograph of the original tree in a recent issue.

A tree that will grow one hundred feet high and three feet through the trunk at three feet from the ground in sixteen years, and having the great economic value that belongs to the black walnut everywhere, is certain to become an important factor in the forestry problem of the future.

Probably no timber tree in this country has the value in dollars and cents that belongs to the black walnut, and the area over which it will flourish is so vast and the ease with which it can be grown so great, that I judge that very few can fully comprehend the possibilities that attach to the introduction of this hybrid—I can attest to its rapid growth.

In the spring of 1905 I procured one pound of nuts from Mr. Burbank and planted them as soon as I received them. I wanted a few large growing, handsome deciduous trees on the south side of my dwelling, that I might have shade in the summer and the sunlight in winter.

Among others, I planted two of the Royal walnut, and I submit herewith a photograph of one of these seedlings, taken in October, 1907. This tree is three inches in diameter one foot from the ground and the man in the picture is 5 feet 10. So you may determine the height yourself. This tree has been grown without irrigation and considering that the walnut takes the first three years to make roots and get ready to grow, I look for a wonderful growth in the next few years. To test its value as a stock for the English walnut, I grafted one seedling with a soft shell and the union proved absolutely perfect. I have yet four fine well shaped seedlings, that I will top graft this coming spring with soft shells.

Royal Black Walnut seed planted in Spring of 1905. Mr. Lobingier standing by tree.

I found some variation in the vigor of growth in this lot of seedlings, but not as much as is usually found in seedlings. In large plantings for forest, it will of course be necessary to use seedlings; but he will be wise who will procure a tree or two grafted from the original tree, from which to grow nuts for future planting.—Q. A. Lobingier.

Only One "BROMO QUININE"
That is LAXATIVE BROMO QUININE. Look for the signature of E. W. GROVE. Used the World over to Cure a Cold in one day. 25c

THE CANNA.

Deep planting will often be sufficient as the stalk has the support of the soil around it. Good, rich, sandy loam and plenty of water are required. As soon as the spikes get to blooming well they may be cut and put in water when they will continue to grow and bloom as well as in the ground.

The canna in the large sorts is very pretty and showy. For tropical effect we have few plants that equal it. The large flowered sorts, as "Alleniani," "Italiafi," "Austria," "Burbank," "Philadelphia," "Pennsylvania," and others are exceedingly fine. The foliage is in different colors, so one can have quite a variety.

Cannas should be planted somewhere in the background, for they grow so rank they hide other things. Their blooms are rather coarse, too, so they do not combine well with other flowers, or do well for cut flowers unless used in large bouquets and with large ferns or leaves. Nature shows this by giving the plant large leaves and tall stems.

Do not let them go to seed if you want a long season of bloom. The old bare stems left after the bloom falls looks ragged and bad, and should be cut out at the ends. Do not cut out the whole stalk, for it will send out a blooming branch from each joint until the whole stalk is exhausted. Then it, too, should be cut out.

A GARDEN SEAT.

If you are cutting down trees in the yard save two stumps which are close together for the purpose of making a substantial basis for a garden seat, or, if you desire, have two large pieces cut and put in the place where you wish this seat. Cover it with a large flat board for a seat, make a suitable rustic back and arms. If desired, the grape vines can be interwoven through the back and arms, and over it can be grown pretty trailing vines. This is a good idea for country people who have an abundance of room for just such benches, which adds so attractively to their spacious lawns.

"A VERY GOOD JOURNAL YOU'D SEE."

(Written for California Cultivator by Katie R. Gilstrap.)

If you a very good farmer would be,
Just take the Cultivator.
And then a very good journal you'd see,
It's a right good educator.

It has this, and that, and the other too;
Many things you'd like to know.
It has homely hints, how to cook and stew,
And tells you how to plant and grow.

There's many "ads" that ask your "dough"
But when you well have hunted
We think you surely "why" will know,
Your runted pig was stunted.

So many notes from the Pacific Coast;
All tell of great achievements,
And all must surely see, just cause to boast
Of many grand attainments.

If you should think of things you do not know
Just ask the Cultivator.
And then read all their pithy points, and lo!
Your ignorance will scatter.

If sickly, weak or lousy hens don't pay,
Then see just what's the matter
By reading the many good things they say
In the helpful Cultivator.

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Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

BLACK HEAD, A DISEASE OF TURKEYS.

THERE has just been received at the school a bulletin published by th Rhode Island Agricultural Experiment Station entitled: "The care and management of turkeys with special reference to the 'Blackhead' disease."

The above station deserves a great deal of credit for the work it has done in investigating this disease; the work will be of great value to our poultrymen throughout the country, and more especially to the farmer who is raising turkeys on a small scale.

Several cases of "blackhead" were reported to the school last year during the spring and summer months, and are the only cases the writer has come in contact with; it is possible, however, that numerous turkeys have been lost throughout the State by this disease, the raiser not knowing the cause of death.

There are numerous localities where turkeys have been raised successfully for a number of years; then there appears an "off year" as the farmer calls it, when a great many of the poults are lost, and from that time on there is trouble in raising the young turkeys. The cause being, no doubt, the "blackhead disease," the parasite having been carried to the flock in some way.

Symptoms.

Although the term "blackhead" has been applied to poults dying of amebic disease, experience has shown that few young poults have black heads when they die, and that many old turkeys do not. When turkeys, after a long continued illness die, their heads, which are usually red in health, become more or less darkened. In acute cases they die so quickly, however, as to leave no impression as to a change of color of the head.

The majority of young poults die after a day or two of droopiness. Adults may droop longer and pass into chronic stages of the disease. Refusal to eat and standing apart constitutes late symptoms. Starvation in chronic cases produces thinness. When the disease in the cecum is slight it is doubtful if the affected birds have diarrhea, which is more or less present in other cases. In many of the older poults the droppings will be liquid and stained orange yellow; this is the most characteristic of all; sometimes there are blackened blood clots in the droppings, indicating slight hemorrhages. Most affected turkeys die during storms: their circulation seems deficient and unable to carry them through the severe changes. When they are noticed in time and are dieted in confinement of a colony house, many may convalesce that would otherwise die from exposure.

The following is a summary of the bulletin:

Summary.

Before these experiments were begun at the Rhode Island Station, it had been shown by Dr. Theobald Smith, then of the Department of Animal Industry of the U. S. Department of Agriculture, while engaged in co-operative work between the Bureau and the above station, that the disease of turkeys, commonly called "blackhead" was due to a minute animal or protozoan.

The seat of the disease was shown by Smith to be in the liver and ceca. In the former it is recognizable by discolorations often more or less circular or even quite irregular in form, and often presenting a yellowish appearance. In the ceca or blind intestines the disease is accompanied by great enlargement, in consequence of the formation of an internal exudate and a thickening of the cecal walls. One may quite safely infer that the disease is in progress from the semi-liquid consistency and yellowish color of the droppings. Results were obtained indicating that the disease is transmitted from one turkey to another by feeding on the droppings of a diseased bird.

When the work of experimenting with this disease was taken up by the station, it was assumed that the amebae would not be present even in the egg of a diseased turkey. It seemed probable, therefore, if eggs could be hatched and poults reared away from turkeys or on land where none had been kept for a year or more, that the blackhead disease might be avoided.

The first attempt was, therefore, to raise turkeys by means of fowl in the new poultry plant of the station, where there had been no turkeys kept for several years. This attempt resulted in absolute failure to escape the blackhead disease. Whether the disease was carried through the egg, or was transmitted in some other way, remained to be determined.

Following up the investigation it was found that the disease could be escaped for several weeks if the final incubation was artificial, and if the poults were kept on board floors away from ordinary fowl or turkeys. When poults from eggs incubated in the same manner were exposed to the ground of the poultry plant, the disease was acquired in from twelve to twenty days. This proved that the disease was not transmitted through the egg, but in some way from the soil or from forms of animal life therein or thereon.

The investigation also showed with strong evidence was carried and distributed by ordinary fowl, yet nevertheless they rarely die of the blackhead disease, though a few cases apparently identical with the disease in turkeys have been encountered at the station's poultry plant.

The experiments have shown that by removing the turkey eggs three or four days before hatching, wiping them with a cloth moistened with 90 per cent alcohol, finishing the incubation in a machine, keeping the poults for the first few weeks on a disinfected board floor, and placing them in a location remote from ordinary fowls, the losses by blackhead disease prior to reaching maturity may be reduced from a minimum of 80 per cent to from about 15 to 20 per cent.

This shows that turkeys must be

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IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

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The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

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From Carefully selected purebred stock of

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Buff Orpingtons **Aylesbury Ducks**

For full particulars and prices on eggs and incubator chicks apply to

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GUARANTEED ANALYSIS:
Protein 65%
Fat 8%
Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps. No fertilizer ingredients in these Beef Scraps.

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Made of Clean Beef Bones, surplus fat removed. Cleanest Raw Bone on the Market.

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No Hair **$300 per Sack** *No Hoofs*

Geo. H. Croley - ***Petaluma, Cal.***

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No More Dead Chicks To Throw Out Every Day if You Use

The Reliance Brooder

The Best Brooder Made. Only **$6.50**

This is what those say who are using them. The experience of others who raise strong, healthy chicks

Will Save Your Dollars

Write us for names and addresses of those who are now using the Reliance Brooder. There is money in the poultry business when you know how, and the Reliance is insurance against failure.

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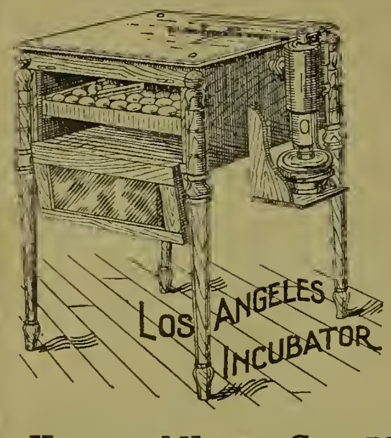

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prepared from clean, sound grains, seeds, beef scraps and charcoal in proportions to make a well balanced ration and produce strong, healthy chicks and keep them continually growing. For sale by all dealers and grocers. Take no other.

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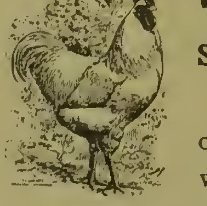

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All Eggs are from good, strong vigorous stock.

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—Breeders of—

Single Comb Buff Orpingtons
White Rocks and
Indian Runner Ducks

Orpington and Rocks $2 per setting; $6 per 100.
Duck Eggs $1.50 per 12.

Write your wants. Correspondence carefully answered.

Box 298. **WYATT & WOLLITZ, Corona, Cal.**

For Sale—Incubators

Have a Limited Number of **"Queen" Incubators and Brooders**

1907 model which I will sell at the following COST PRICES: 110-EGG INCUBATORS, $8.25; 50 CHICK BROODERS, $5.00, F. O. B. Los Angeles. Every QUEEN MACHINE replaced or your money refunded within NINETY DAYS if not all we claim. SEND FOR OUR NEW CATALOGUE AND SPECIAL PRICES. On our 1908 model we make five sizes of Incubators from 60 to 340 capacity. BOTH INDOOR AND OUTDOOR BROODERS from 50 to 200 capacity. THESE MACHINES ARE HIGH QUALITY AND LOW PRICES.

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Doke Chick Feed is The Pioneer Chick Feed

A Balanced ration made of pure grains (cracked), Seeds, Beef Scrap Charcoal. No grit no waste or bowel trouble in feeding this feed.
Will send freight prepaid to any address for $3.50 per 100 lbs. Arizona points 50c extra.

Pioneer Hatchery 711 South Main Los Angeles, Cal.

kept away from ordinary fowls as much as possible, and in view of the tendency of partially wild turkeys to roam and remain at a considerable distance from the farm buildings, it is possible that the supposed benefit from introducing wild blood is thus partially explained, and that it is not wholly due to greater immunity of the wild birds. It is popularly believed that turkeys cannot be raised successfully in confinement; one reason may be that they are often confined with ordinary fowls, which give them the disease organisms (amebae.) More must be known about the means by which this disease is transmitted before great progress in its practical control can be expected, and the work should be continued so long as new facts bearing upon this point are discoverable. It was only by such persistence that the relation of the mosquito to yellow fever, and the tick to Texas fever in cattle were ascertained, and that practical steps in the elimination of these diseases were made possible.—Alfred G. Lunn, State Polytechnic School.

AROUND THE YARDS.

Exercise is the best and cheapest stimulant for birds.

* * *

The secret in feeding laying hens is not to get them too fat.

* * *

Breed your best birds this year, your profits will be greater.

* * *

The comb is a good indication of health. It should be bright red.

* * *

If you keep your birds scratching in the litter they will not get too fat.

* * *

Fresh meat and bone ground with a bone mill will make hens lay where other feeds fail.

* * *

Chicken Pox.

My chickens and turkeys have begun to die from sore heads. They appear droopy and their heads break out with dry sores all over. Have been feeding them on soaked barley. Will you kindly advise me by return mail what should be done for them. —I. J. W., Lemon Cove.

Your birds have chicken pox. We published a splendid article on this disease in the issue of September 19, but for those who did not keep the article, we give this simple remedy which is good. Treatment: Anoint the afflicted parts with carbolated vaseline, removing the crusts as they soften and yield to gentle rubbing. Cleanse everything and keep all surroundings clean.

• • •

Scratching Shed.

We received a letter asking us why we laid so much stress on a scratching shed, and why birds, especially growing stock and laying hens, needed exercise.

In the first place, we advocate a scratching shed because no well regulated poultry yard should be without one. For young stock or laying hens there is no better or cheaper method to create a healthy appetite than to make your birds scratch or work for at least one meal a day. In poultry, as with yourself, confinement and hearty eating without exercise will cause indigestion. In order to develop bone and muscle, stimulate a healthy circulation, keep the mind and body occupied and prevent the formation of bad habits, such as feather pulling and egg eating, it is necessary to have a scratching shed. We know of nothing that

Imported Aylesbury Ducks

Winners at Crystal Palace and leading shows in England.
Also at the State Fair, San Jose and Oakland, 1906.
Also State Fair and San Jose, 1907.
Stock for sale and Eggs in season.

Vincent G. Huntley
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Also Breeder of Buff and Black Orpingtons and Barred Plymouth Rocks.

EAST SAN GABRIEL EGG RANCH

S. C. White Leghorns
Barred P. Rocks

Won on White Leghorns at the Poultry Breeders' Association show, Jan. 6-12, 1908. 4 firsts, 2 seconds; 4 thirds; 1 fourth; 1 fifth. Also Association cup for highest scoring on White Leghorn cockerel. Eggs for hatching, $1, $1.50 per 13; $5 per 100. Prize winning pens, $2 per 13. The hens in our breeding pens are all selected two-year-old hens, and bred to lay and win.

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San Gabriel Electric to Masonic Home then 2 blocks South.

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the year around and brings $1.00 each when sold to market? Our **BUFF ORPINGTONS** are that kind. Write for show record never equalled on the Pacific Coast, Catalogue, and prices.

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First prizes San Jose '06, and State Fair '07
Three 1sts and special, San Jose, '07.
Three 1sts, three 2nds and $50 Cup best display Petaluma '07.
Send for free '08 Catalogue and price list.

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Prolific Breeders
Winner of 1st pen at Breeders' Show
Satisfaction Guaranteed

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For $100

Close to Los Angeles. If you want quick returns on your money, call at our office for particulars.

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For Sale ***Five-Acre Well Equipped Chicken Ranch***

Just outside City Limits. 5-room House, Barn, Windmill and Tank, Horse and Buggy, 400 Chickens, Incubator and Brooder House.
2 acres young Peach Orchard, rest Alfalfa. Price $3,000. A money maker for the right one.

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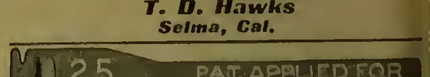

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It is proof against dissatisfaction because it is made to endure, and people who once buy it, buy it always.

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bird or Fifty—One setting or 1000 ggs that hatch, at prices in proporon to quality. Orders booked now or delivery.
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gs $1.50 per 15, $7.00 per 100. I. R.
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n supply Eggs from strong vigorous birds red to the skin and correctly matcd for $1.50 $2.50 per 15. Incubator lots a matter of corondence.
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will tone a flock up, prevent the birds from becoming overfat, help in the production of fertile eggs, prevent young birds from having leg weakness, as making them work for what they get in a nice, clean litter of straw in a scratching shed.

* * *

Trap Nests.

Will you please tell me which kind of trap nest is the best and where plans or designs for them can be had?—X.

The best trap nest we know of is one made after the Maine Experimental Station model. This is changed some. They are for sale by Henry Albers Co., and Kloninger Bros. of the city. If I were you I would buy a nest for a model and make what I wanted.

* * *

Egg Production Selection.

What is there in the "Walter-Hogan System of Increasing Egg Production by Selection?" Is it as they advertise?—E. L., Pomona.

The Walter-Hogan system is all right for culling out the non-layers. That is, if you are going to sell part of your flock you can cull out the birds that are not laying, but you can't tell by the system which hens will be laying two weeks or a month from time they are culled. The best and only sure way to cull out the non-layers and those that only lay occasionally, is by the use of the trap nest. In this way you can get rid of your poor birds and at the same time pick out your best layers.

* * *

Pigeons.

Where can I get a start in the pigeon business? I want to secure good stock?—W. R. B.

I think if you will write to some of our advertisers who are advertising pigeons, you will get what you want. Either Kloninger Bros. or W. H. Elliot of this city can furnish you good stock.

ORPINGTON CLUB OF SOUTHERN CALIFORNIA.

The annual meeting of the Orpington Club of Southern California was held at the Breeders' Association Show, Chutes Park, Los Angeles, Jan. 9th, at 3 p. m. G. A. Tate, President, in the chair; four new members were elected, and the election of officers resulted in P. L. Harley, Pres; G. A. Tate, Vice-pres; A. G. Goodacre, Sec. Treas. Executive Committee, N. H. Hayden, J. J. Dean, W. W. Felgate, with president, vice-president and secretary.

The secretary gave a report of the year's work and the publication and distribution of the club catalogue. Total receipts, $81.50; expenditures, $80.05; catalogues, $50.50; special club ribbons, $8.05; printing circular letters, cards, membership blanks, postage, electro of ribbon, stationary, $21.50; leaving a balance of $1.45 in treasury with all bills paid.—A. G. Goodacre, Sectary, Compton.

Many writers when asking advice about sick birds raise the question: "If birds are cured can they safely be used as breeders?" We can answer all such inquiries by stating that it is not advisable to use such birds and that birds which have never been known to be sick or to show a weakness, should be used. Strength and vigor as well as other good qualities can be bred into future flocks only by using the best of birds.

D. F. Cahill of Lemoore, California, says: "The Cultivator is the best dollar's worth in the country."

"Confidence and Reliability Beget Business"
George W. Grace & Son
Rural 21 Capitol Ave
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Bred for Eggs and Beauty
Fertility Guaranteed
White Wyandottes Exclusively
"Cream of the Coast"
The winnings of our strain are as great as ever made in Strong Competition on the Coast.
First Cock, Hen, Cockerel and Pullet
Many other prizes
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Sittings, $2, $3 and $5 per 15. Per 100 eggs, $10 and $15. Now ready.
Exhibition eggs $8 per 15, from "Madam White" and her daughters; also other equally superior fowls. Day old chicks, hatchable eggs, for early spring delivery.
Stock
Breeding Stock from mature standard-bred fowls. A few young pullets at bargain prices. Are strong, healthy, vigorous stock. Must have the room. A trio, two pullets and cockerel, from pedigreed stock, very reasonable. Incubator Chicks, $15 per 100.
Bookings Must Be Made in Advance.
Correspondence a Pleasure. We Can Satisfy You.
Send for New Price and Mating List.

Let us have Your Order for a
Glendale Incubator or Brooder
on the Strength of what it will do for You
You want a machine that doesn't take an expert to operate, that hatches every hatchable egg, a well made machine that won't compel you to sit up nights or to feel uneasy at any time. In a nutshell
You want healthy, Vigorous chicks and that's the kind Glendale Incubator produces
We prepay freight and you can have the privilege of trying it for two hatches as a test, and if it doesn't please you, if it hasn't proved to be the easiest running, safest Incubator you ever saw—and the machine you want—just ship it straight back to us and your money will be returned to you without a quibble, for we can't afford to have you dissatisfied in any way. Ask for our little folder or better yet, call and examine the machine in actual use at our salesroom
803 So. Main St. Los Angeles, California The Taylor Seed Co.
We also have Poultry Feed and Seeds

MISSION VIEW POULTRY RANCH
At the Los Angeles County Poultry Association Show, Dec. 7-14, 1907; White Wyandottes, 1, 2, 4. 5 cks; 1, 2, 3, 4 ckl; 1, 2, 3, 4, 5, hen; 1, 3, 4, 5, pul; 1, 2, 3, 4, 5 Pen; MAMMOTH BRONZE TURKEY—1 adult, 1, 2, 3 yearling; 1, 2 young tom; 1, 2, 3, 4, 5 hen; and 2 on ten pullet pen; 1, 2, 3 pullet.
Out of thirteen possible specials I won ten as follows: The Times cup for best display of White Wyandottes, the Los Angeles Produce Exchange $50.00 silver cup for best display of table fowl, the Henry Albers loving cup for best pen of White Wyandottes, Harper & Reynolds Company's handsome carving set for best display of White Wyandottes, the Superintendent's cup for best display of any one exhibitor of any one breed, a California incubator for best display of turkeys, the Association cup for best White Wyandottes, the National White Wyandotte Club cup for best Wyandottes, all the National Wyandotte Club ribbons for best cock, cockerel, hen and pullet; and in the competition open to ladies only; cut glass vase for hen and ten chicks in a large breed; and cut glass salt and pepper shakers for best bantam hen and five chicks.
I had the largest exhibit of White Wyandottes ever made on the Pacific Coast by any one exhibitor. I raise all my birds and keep forty breeding pens and all my hens are trap-nested.
MRS. C. D. HUBBARD, San Fernando.

Baby Chicks, All Varieties
Send for price list of chicks and eggs. Guaranteed pure stock. We are the largest chick dealers in the world. We ship everywhere
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Starbuck's Barred Plymouth Rocks
We trap nest our hens. Why set from poor layers? Bird laying qualities are inherited the same as any other. This year we have discarded all old matings and have gone to the next generation. Cocks have 9 generations of 200 egg mothers. Hens all from 200 egg mothers and from cock with 6 generations of 200 egg mothers, and are layingfine. We havs divided into pens according tot the way they are showing up in five months laying. $2.00 for 13 eggs from firs pen. $1.00 from 2nd. until hey have time to make longer records. (Except from one best, $30 for 13. We claim the world's Barred Rock, 6 months laying record for this one.) Do you wish to hear about our prize winning Buff Orpingtons and Silver Wyandottes? We have something to crow about. No Sunday sales or visitors. *Wm. Starbuck & Son. Fullerton*

Mammoth Bronze Turkeys One and Two Year Old Hens and Early Hatched, Well Matured Toms For Breeding
Well Bred, Carefully Selected Cockerels Good Style, Good Size, Pure White Birds S. C. White Leghorns Eggs for Hatching, Any Quantity Write your wants.
No trouble to answer inquirers. Satisfaction guaranteed.
Stuhr-Williamson Poultry Company
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Beef, Blood and Bone Will Make Your Hens Lay
This is not a medicine but a high grade nitrogenous food. Write for free booklet "How to make Hens Lay." Our Poultry Foods are sold by all local dealers and manufactured solely by
The Pacific Guano and Fertilizer Co., Indiana and Yolo Sts., San Francisco, Cal.
Also Pioneer Manufacturers of *High Grade Fertilizers.*
Write for our free booklet. "Farmer's Friend." Valuable to all farmers and ranchers.

Barred and White Rocks
White Wyandottes and Beautiful Little Golden Sebright Bantams
If you want birds of the highest quality, bred for standard and utility, write your wants. I guarantee satisfaction.
D. T. Heimlich - Jacksonville, Ill.

Black Langshans Well, we won again at Los Angeles. Two firsts, one second, one third on five birds shown, Best stock ever in show room in California. Eggs, $2.00 to $5.00 per 13, $10.00 to $20.00 per 100.
White Rocks Large and vigorous. Improve your stock with a setting or get a fine flock with an incubator lot. Eggs, $1.50 to $2.50 per 13, $8.00 to $12.00 per 100.
S. C. White Leghorns Order eggs now, we have plenty of them. Have had all winter, great big white ones. Eggs, $1.00 to $2.00 per 13, $6.00 to $10.00 per 100.
Phone East 915 Foster's Poultry Yards, 128 W. Avenue 41, Los Angeles

When writing advertisers, mention Cultivator.

WHITE AND BUFF WYANDOTTES
And Golden Sebright Bantams, prize winners
Stock and Eggs in season
M. E. Dillingham, Box 67 San Gabriel, Cal

Mr. Wm. Price of Greenfield says: "I am very much pleased with the Cultivator. One copy was worth more to me than the cost per year."

C. C. **MORSE** & Co. Plants **SEEDS** Trees

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This picture represents the cover of our handsome new catalogue done in colors showing the flowers and fields true to life. Send us your name and address and we will mail this new 1908 Catalogue free.

Send us $1.00 and we will send one each of these three fine roses (strong, 2-year-old roots), FRAU KARL DRUSCHKI, MILDRED GRANT, MADAM CAROLINE TESTOUT. Or send us 25c and we will send you a large packet of our beautiful new Sweet Pea, FLORENCE MORSE SPENCER.

Trees and Vines

for profit and adornment

Roses and Plants

that please and beautify

Write for our new illustrated Catalog descriptive of the leading California Fruits, Roses, Ornamentals, Eucalypts and everything for the orchard, avenue and garden.

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200,000 Eucalyptus Trees in Variety

Transplanted in flats of 100 each. We prefer orders of 1000 rather than 10,000; outside limit 20,000. Our trees are up to our usual standard. We invite correspondence. Our booklet, telling when, how and what to plant, free to our patrons only. Address

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1908 Seed Catalogue 1908

If you have not yet received Johnson & Musser Seed Co's New Catalogue, write for it at once. And get your name on their waiting list.

Johnson & Musser Seed Co.

113 N. Main St. Los Angeles, Cal.

400,000 Hardy Eucalyptus

Fifteen varieties of hardy outdoor grown Seedlings. All sizes for early or late planting.

Cerro Villa Eucalyptus Nursery

R. D Box 107

Hugh T. Thompson. Supt. **ORANGE, CAL.**

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The Vegetable Garde

MUSHROOM GROWING.

LETTERS are received at the Colorado Agricultural College each fall and winter in which inquiries are made about the methods of growing mushrooms. One should know something of the nature and requirements of the plant before growing it. This is particularly true of mushrooms, since there are no other horticultural plants like them. Because of a lack of this knowledge many people fail, and this is not surprising, as they are regarded as the most exacting of plants.

Mushrooms belong to a vast family of plants which have no green coloring matter and produce neither flowers nor seeds. Lacking the green coloring matter, they are unable to manufacture plant food so must live upon that which has been prepared by higher plants. Thus we find them growing upon decaying wood and upon decomposed manure. Many of the kinds which are found growing in the wild are poisonous and none should be eaten without ascertaining for a certainty that they are edible. ,

But one kind is commonly grown artificially; this is known as "aguricus compestris." The seed-like organs, called spores, cannot ordinarily be used in propagation, but in their place the root-like parts are used. This material, called spawn, comes in the shape of bricks which contain the underground portions of the plants in dormant form. Any seedsman can supply spawn.

Mushrooms do not require light in which to grow, consequently beds are frequently made in cellars. Any cellar or cave in which the temperature does not go much below 50 degrees grees will be found to be about right.

A framework should be made for the beds of any convenient length and width, but deep enough to contain about twelve inches of compost after it has been well packed. Fresh horse manure that is nearly free from straw or litter is commonly used to grow mushrooms in, and it should be gathered as rapidly as possible. The manure is placed in a pile so as to induce fermentation, but it must be turned daily to prevent burning.

The heat will soon become intense, but after a few days it will subside; after this stage has passed the manure may be placed in the beds. It should be put in layers and each layer is packed as hard as possible by pounding with a brick or mallet. The temperature of the compost must be watched closely by inserting a thermometer into the bed. When it reaches 90 degrees the spawn should be planted. The bricks of dried spawn are broken into pieces about the size of a walnut and inserted into holes in the manure, about three inches deep and four or five inches apart. The surface should be pressed down firm after planting. In about ten days a coating of good loamy soil is put on the beds two inches thick; this should also be well firmed, then the beds are covered with hay or straw. If everything has been done just right, no further attention will be required until the mushrooms begin to appear. The air of the room must be kept damp, and if the beds become dry, moisture must be supplied. Water should be applied sparingly, however, and the less need there is for its application the better.

If everything goes right, which is doubtful, one may expect a crop four weeks. We must not despair, h ever, if there are no results at the of three months.

The limits of this article will per of only the barest outline of mu room culture, but it will serve show that mushroom growing something of a trade in itself. would strongly advise all who template growing this crop to se the Department of Agricultur Washington, for their bulletins on subject. W. Paddock, Professor Horticulture and Botany, Colorado ricultural College, Fort Collins, C

A GREAT YEAR FOR STRAWBE RIES.

Strawberries in January stri the average citizen of the East wonderful, although the very weal people can have them at any time paying as high as a dollar a bas for fruit grown in the hothouse shipped from the districts around Angeles.

The forwarding of strawberries this season has developed into a v profitable industry. Special arrai ments have been made for hand them by the railroads. One of latest inventions is a refrigera which travels by express to its de nation, and carries thirty-six, fo five or 108 baskets, according to size. The principal points to w the fruit is sent are New York, cago Cleveland, St. Louis and W ington, D. C.

The berries shipped to the ca are, as a rule, for the tables of gressmen, and special lots are sen the White House, of Brandywi which are very hardy, and keep ter than any other varieties. Pri net Los Angeles, on Eastern s ments at present, are from 40 to cents a basket. There have been sons in which the first-mentio sum has been doubled. Losses not very frequent, because of precautions taken.

In this city, an ordinary w earner may enjoy the luscious st berry from January 1 to Decembe at an average price, the year aro of 7 cents a basket. During the plentiful season prices are down cents and even in February March, when the berries ripen sl and are rather scarce, prices neve ceed 20 cents.

This year the crop is heavy, o to the continued warmth of weather. The Tropico and Glen Berry Growers' Association is warding a daily average of 200 cas its local agents, in addition to q titles sent to the North and nea points. The Gardena and Moneta sociations ship as much more, an windale about half the amount. daily consumption of berries in Angeles exclusively this month been about 500 cases. In the s and summer it is 2000 cases.

The grower prospers. From secured, it is learned that a yearl profit of $1500 an acre is exp This has frequently been exceed good years. A Tropico patch of acres in six months brought its $5765 net.

Many fields in this section owned by white people, but care by Japanese and Chinese, who proven themselves particularly for the tiresome routine work of ing down weeds and making pickings and weekly irrigations.

The life of a strawberry plar generally three years. Then pulled up and the ground fert and new plants put in. The va which at present enjoys the gre popularity is the Brandywine, a large and solid. Excelsiors are seconds, and a host of others propagated with more or less su The towns of Tropico, Glendale, neta, Gardena, Strawberry and dale have become famous for berry production. Preparations going on apace in all of these p as well as in new fields for the tation of extra acres.—L. A. Tin

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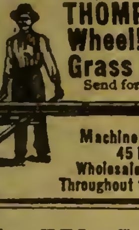

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Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Answers to Queries.

The number of queries coming to the Cultivator have increased lately, so that we now hardly have the room for all and their answers. This is not said to discourage their coming. Quite the contrary, for they are an indication of the fact that subscribers are looking to the Cultivator for help. That is exactly what we seek to encourage.

But, a word of explanation as to the time required, sometimes, to secure the answer. Many of the questions are of such a nature that they are best referred to the contributors who are actually in the field work. For instance, last week's paper had many answers by J. W. Mills on grapes, pruning, grafting, budding of deciduous trees, and, in fact, a fund of information in his answers alone worth a year's subscription.

Others as to gardening were answered by Mr. Lobingier. Again others by Mrs. Sherman and other contributors. These are of value, because they are answered by people who know.

But to send these from the office to the homes of the contributors who are qualified to answer, takes more time than to answer from the office. Sometimes the one to whom it is sent is absent, so that two or three weeks may elapse before the answer appears. This we are trying to correct as much as possible, and we ask subscribers to be as patient as possible.

Send on the queries but don't ask a mail answer. Let us answer through the paper as mailing answers takes a great amount of time, and is of no value to the 12,000 other subscribers. Where the answer requires immediate attention, enclose a stamp and we will do the best we can, but don't ask it except in case of urgent need like sick stock or other similar cases.

In case veterinary answers are desired by mail, the veterinarian charges a fee of $1.00.

Fresh Figs.

I am thinking of planting a small orchard of fig trees this coming spring and, of course, am desirous of planting the best variety for this locality. I wish to market them fresh as the orchard will be too small to dry and pack. The common black or purple fig does well in this locality.—A Subscriber, Gardena.

We would not engage in fig growing near the coast as you will certainly have trouble with them souring. You cannot catch the early or late market, and growing fresh figs for market has been tried further inland and has not proven very profitable. The Black San Pedro is a very profitable fig around Indio, but they get their figs into market in prime condition from May till midsummer and again late in the fall. They tell us that the demand is limited.—J. W. M.

Warts.

Is there any remedy for warts on colt's upper lips by the nose?—H. Kazarian, Fowler.

Use stick of caustic whittled to point and touch around base of wart. After a few applications they will disappear.

Water Sprouts.

Kindly tell me how to determine the suckers on young Valencia orange trees and the proper time to prune off. Do any but suckers have thorns on? What would be the result of using a wax on bruised or squirrel eaten trees composed of half rosin and half bees wax. Does this not make to hard a wax?—A New Subscriber.

If you mean by suckers, those branches that come from below the bud, you do not need to discriminate, but trim off all such growth up to the main branches. If you refer to the rank growth that comes out from the inside of the trees, we will say that in training a young orange tree, it is advisable to cut out the rankest growth and leave the growth of medium vigor. This strengthens the main branches and gives the trees a good form. When they come into bearing large crops, they will be able to hold them up without propping, and the fruit will not be swung around by the wind and become bruised. Heavy sprouts that come up through the body of the tree should be removed, unless they fill in a gap. Thorns may come on any branch, but are most common and are larger on rank growing branches.

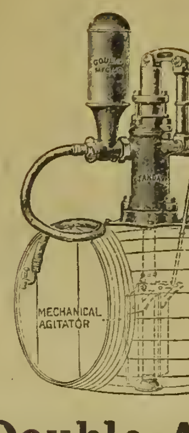
Surfaces of the trees from which the bark has been scarred or barked in any way are much benefited by painting with wax. The right proportion is four parts rosin, two parts beeswax and one part tallow. Boil together till they are thoroughly mixed and paint it on the wounds while hot, using a brush. It should not be boiling hot, but thin enough to flow well.—J. W. M.

Walnuts, Almonds, Loquats, Etc.

When should I sulphur my grape vines? I have two loquats both set out about three years ago. One is thrice the size of the other, but the small one is full of fruit and the large one has not shown a blossom. Is there any reason for its non-production? I have been coaxing an English walnut along for four years, and now your paper says there are male and female trees. What shall I do to have English walnuts from my one tree? My almond tree has borne two years, but only a dozen nuts or so each year. Must it also have a mate to set its blossoms? Can you give me information about planting cow peas in a lemon orchard, when it should be done and when ploughed under?—Inquiring Subscriber.

You should sulphur your grape vines as soon as the grapes are set and that is when they have passed the bloom and the little berries have begun to enlarge. Sulphur again in about two weeks; this should be sufficient, but your locality may require another application. The sulphur will not take effect till the temperature approaches 80 degrees, and if you have a great deal of damp weather late in the season, another application of sulphur soon after the second may be of help to you.

It is a mistake to think that walnuts have male and female trees. The catkins that come out before the leaves appear, furnish the pollen that fertilizes the little nuts that appear



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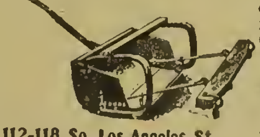

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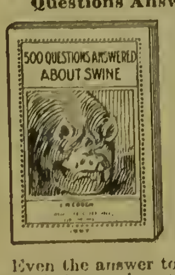

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later on the tips of the young growth.

Your big loquat tree is a loafer and needs grafting to something that will work. If you like the quality of the fruit on the bearing tree, graft from that. It might be satisfactory to try some grafts of Taft's Advance loquat. Write to C. P. Taft at Tustin.

Your almond tree may be one of the kind that does not bear well alone, but they sometimes produce a heavy crop. Almonds bear better when two or more varieties are planted in lose proximity, but for the home orchard two trees, Languedock and Ne Plus Ultra are good varieties.

Peas should be planted in the orchard as early as September so as to get a good start before the cold weather comes on. Vetch has proven better than peas as it grows well during the cold weather and does not dry out so fast in the spring. There are two methods quite widely practiced in planting green crops. One is to irrigate thoroughly and drill in the seed as soon after as the land is fit to work and the other is to drill in the seed and furrow out and irrigate afterward. We prefer the first method as the soil is cultivated soon after irrigation and does not have to be irrigated so soon again.—J. W. M.

Peaches, Walnuts and Olives.

Will you kindly answer the following queries through your valuable paper: What do you consider the best cling peaches to plant in Sacramento valley, considering sureness of crop, heaviness of yield and quality? What is the comparative value of seedling walnut (English) and the grafted, and would you advise one in limited circumstances to pay the great difference to get the grafted stock? Will the soft shelled varieties sunburn in the interior valleys? What is the best variety of olives for pickling, considering heavy and sure yield, size and easiness to cure?—J. Overholtzer, Princeton, Colusa Co.

The best peach for the Sacramento valley, everything considered, is the Phillips' cling. It is so, because it is a good bearer, fine quality, has a small pit and is an ideal peach for the canner.

There is no comparison between a seedling and a grafted walnut orchard when the scions for the grafted trees are selected from trees of high grade. There are seedling trees that average 200 pounds of nuts per tree a year, while trees grown from the same set of nuts and are next to the prolific tree in the orchard, may not average 20 pounds of nuts per year.

If you cannot afford to buy grafted trees, get some California black waluts and plant them in a nursery, don't plant them in orchard form, because you will have all degrees of vigor. Select the best trees from the nursery and plant them where you want them to grow. In the meantime go to some full bearing walnut grove, select out the tree that produces the best nuts in abundance and engage scions from the owner. Graft these into the tops of your seedlings about six feet from the ground. Do this early in February, grafting into the young branches just as you would an apple or pear tree. You can do this grafting the second year after transplanting into orchard form.

The soft shell varieties, as far as we know, will sunburn, and those which are so situated on the tree that the shell does not burn, will have dark meat; that is, the skin that covers the meat will be dark, thou the eating quality will be uni paired.

The best variety of olive for pic ling is the large Mission. I do n know exactly where you can get tl strain, unless it is of some of the nu serymen. Mrs. M. E. Sherman h this variety or strain of the Missi olive, we have been told.

Santa Caterina is also a fine oli but makes a lighter colored produ than the Mission. It is much soft than Mission, hence harder handle, and as the dark color pickle is in most active demand, t Mission is the best seller. It has t advantage of being well establish in the trade.—J. W. M.

Paper Pots.

I saw in the Cultivator of Jan. 2 a suggestion in Vegetable Gard Department to put cucumbers frames, to be removed later to fie Do you know of any practical me od by which they can be handled as not to disturb the roots and dw the vines?—J. C. H., Ontario.

Paper pots are now sold by nea all florists, they are the cheap and best things I know of with wh to handle such plants.

Procure 2½ or 3 inch sizes and them closely together in a flat, a sift finely prepared soil over th until they are full and all the spa between the pots also filled. T plant about three seeds in each The flats can be taken to the f when the plants are ready to set and pot and all planted. The si of the pot should be cut or torn o but with care so as to disturb roots as little as pssible. The ob is to allow the roots to strike into the soil as quickly as possi This same method can be used w melons and peppers, or in fact, w all tender plants that it is desir to get forwarded early.—Q. A. L.

July Blossoms.

I have a twelve-acre orange gr have only owned it one year would like a little information. majority of my trees have from half dozen to five dozen green anges on when the main crop is colored; the size of the green are from the size of ordinary oranges to the size of hickory I also see that is the case in rounding groves. Can you tell the cause of same, also the thing to do with them, whethe let them ripen for sale or pick t off?—W. B. Cavers, Ontario.

Your green fruit is from bloo of season, chiefly from July bl There is always more or less of it it may be from a variety of ca It always happens to a certain tent. When the summer gr comes out a few blossoms will pear, and as the climatic condi are ideal for setting fruit at time, we nearly always get coarse fruit.

Do not pick the fruit, but hang on till you see how the market is. If Standards bring prices, much of this fruit will as Standards, otherwise, it is w cut it off and leave it in the orcha J. W. M.

Grape Arbor.

Can you tell me what to do wi arbor which is certainly neith thing of beauty or a joy foreve is probably eight or ten years o comprised of Flame Tokay, Se Sultanas and a large white kl grapes. Has been so poorly tr that it is very gnarled; vines only six feet apart and bra very low. Didn't get a bunc good grapes off from them last Would they do any better to them back to about five feet eep in bush form? The soil they re planted in is a heavy, black soil. Irs. T. W. Murieta.

The best thing for you to do is to rune the Tokay vines to about three uds on the new growth and the ultanas to canes of about six or even on some canes, and at the base f these cut a cane back to two buds. ach year remove the long cane vith all of its new growth and start gain with the new shoots that come rom short pruned canes. Spray our vines with a solution of one ound of bluestone to ten gallons of vater after pruning. This may be one with a small bucket pump. fter the grapes have dropped their loom, scatter sulphur under and ll through the vines and about two eeks later repeat the sulphuring. t may be well to work in some table manure around the roots of he vines. This will help them to reover from the effects of any neglect; nd in another year you should have ome good fruit.—J. W. M.

liens Holding Property.

Kindly say whether there is a tate law in California prohibiting liens from holding land. If so, where an I get a copy of the laws. Am a ritish subject at present, but have eclared my intention to become a . S. citizen.—Reader, San Diego.

Sec. 17, Article I, of the California onstitution, provides that: "Foreigners who are or who may hereafter beome bonafide residents of this State hall enjoy the same rights, in respect the possesion, enjoyment and ineritance of property as native born itizens."

And Section 671 of the Code of Civil rocedure provides that: "Any peron, whether citizen or alien, may ake, hold and dispose of property, eal or personal, within this State.

rivate Property.

Can a company take my private itch, enlarge it, and run it through y lands, onto theirs, against my ill? Also, can an irrigation ditch e forced across your lands?—J. ones, Bakersfield.

Private property cannot be taken r public use without a fair and just ompensation to the owners. Nor can stranger, whether a corporation or ndividual, take it without compenating the owner.

arget.

I lately bought an old cow, nearly ry, due to calve in two or three onths. From one front quarter is cheesy or curdled yellow matter, and oesn't seem to diminish, although I m milking it out only at intervals f two days. Seems to be some fever the quarter. Withdrawing milk is ainful to the cow. Milk in other ront teat is of the same nature, ut only small quantity. What is the est treatment in drying it up?—Subcriber.

Dry her off by rubbing the udder wice a day with spirits of camphor. ive the cow a physic of a pound of psom salts. Keep her on dry hay ntil she is dry. The trouble has been hat she has not been milked dry evry time. The way to dry a cow is to eave a little milk, but watch that it s only a little, and use the camphor fter each milking to help absorb that ittle left in the udder.—M. E. S.

eed for Jersey.

What is considered a good and yet rofitable ration for Jersey cows?— ., Upland.

Give her alfalfa hay, fifteen to wenty pounds a day. Make a mixture f one part bran, two parts rolled arley, and feed a quart twice a day. f this pays, increase the grain a little. If you could find some straw the cow should have all she will eat up clean of it every day.—M. E. S.

Fleas on Horses.

Can you give a remedy for fleas on horses' front and hind legs? They do not seem to have any on their bodies. —L. K., Falbrook.

I presume these are the fleas that stick into the animals. Simply grease them well. Kitchen grease, vaseline, lard or any form of grease will destroy them completely.—M. E. S.

Swelling on Jaw.

I have a very fine Jersey heifer that will be fresh soon. About three months ago a swelling came on her jaw. Supposed it was from fox tail. Had it lanced but it did no good. It is as large as it was before lancing, although it is not on the bone.—J. O. W., Santa Barbara.

I should simply paint this with iodine for several days.—M. E. S.

Moss on Trees.

Will you kindly inform me as to what would be the best spray for moss and scales on apricot trees?—Subscriber.

For the moss the sulphur, lime and salt wash will be as good as anything, and, of course, it is good for scale.

Gypsum.

I find that in the San Joaquin valley gypsum is used as fertilizer with fine result. How would this do for an uphill land in Sonoma county? For instance, on a field of oats for hay. If good, when and how should it be applied?—F. J. K., Healdsburg.

A good authority makes the claim that gypsum is of no direct value. That is, it carries no fertility to the soil, but makes available fertility now in soil, hence impoverishes soil in time. Alkali soils, if black alkali, are benefited. Heavy clay soils are also more workable and in better mechanical condition. We would consider the best use to be scattered occasionally in stable to absorb nitrogen, which might otherwise escape. It is a wonderful absorbent. If used direct in field scatter broadcast about a half ton per acre.

Gypsum for Alfalfa.

How much gypsum is necessary to spread over an acre of alfalfa to benefit it? Also, how much is necessary per acre to benefit black adobe soil to render it friable?—Subscriber.

About 1000 pounds. Would advise trial plots, some treated, some not, and the Cultivator will appreciate a report of results.

Ensilage.

My cows do not like ensilage and milk fell off when I began feeding. Had to give bran to induce them to eat. Do not eat hay as well as formerly. Ensilage is good and sweet.—C. O., Burbank.

Cows are creatures of habit and when fed for long periods, or all their lives, on one form of food, it requires a little time to take kindly to a change of food. Mix a handful of the ensilage with their bran, increasing the quantity day by day, until they learn to like it. When you train cows to a varied diet it is possible to have them willing to accept with aivdity anything added to their ration.—M. E. S.

Seed Potatoes.

Can you please tell me where to get some good early Rose seed potatoes? A reader, Dinuba.

The seed men advertising in the Cultivator say they can supply with fine seed potatoes.

Sweet Potatoes.

Sweet potato queries will be answered by a couple of communications next week.

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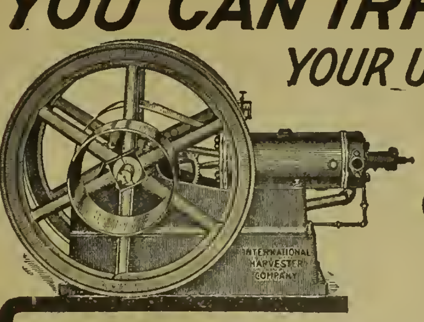
ENGINE



NO need to go up stream and construct miles and miles of ditch to get the water high enough.

Place one of the powerful I. H. C. gasoline engines on the stream where it is nearest your land. There are large engines for irrigating on a big scale and smaller engines for small farms.

These engines are the best means for raising and utilizing the underflow; also for raising water from lakes, ponds, and wells, and also running streams.

They will raise all the water you need and deliver it just where you want it—in the ditch or in laterals.

The first cost of one of these I. H. C. gasoline engines is, in almost every case, less than the building of a long ditch to enable the water to flow naturally to the land.

And the cost of running is always less than the cost of keeping the ditch clean of drifting sand, silt, weeds and fast growing bushes.

In many cases, an I. H. C. engine enables you to reach the knolls and other high places which you cannot reach at all by ditch without expensive flumes that are "tumbledown" and must be repaired every spring.

The engines are made both vertical and horizontal and in many sizes from 1 to 20-horse power. They are easily controlled and run dependably. The irrigator does not need to give them constant attention.

Only an occasional return to them, to replenish the fuel and water supply, is all that is necessary. One man can handle the head of water in the field and at the same time attend to the engine.

International local agents will furnish catalogs and give particulars on all sizes of irrigating engines. Or write the nearest branch office.

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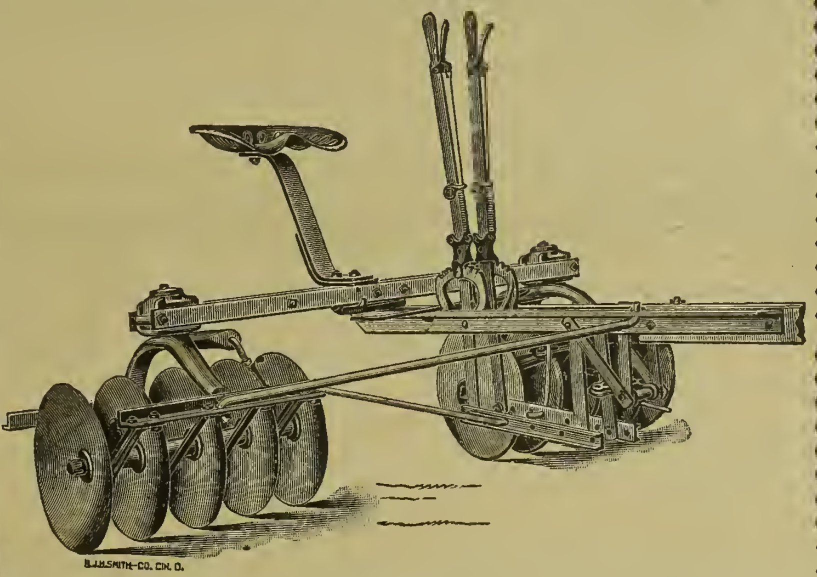
OSBORNE ORCHARD TOOLS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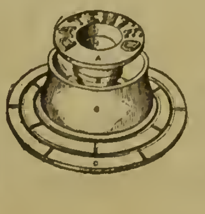

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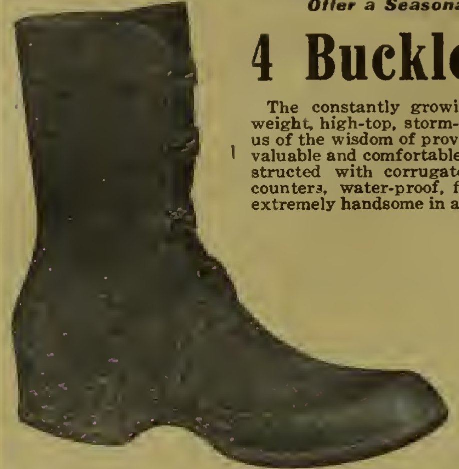

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Household Department

WILLIE'S WEEK.

The year had gloomily begun
For Willie Weeks, a poor man's
Sun.

He was beset by bill and dun,
And he had very little
Mon.

"This cash," said he, "won't pay dues,
I've nothing here but ones and
Tues."

A bright thought struck him, and he said,
"The rich Miss Goldrocks I will
Wed."

But when he paid his court to her,
She lisped, but firmly said, "No,
Thur."

"Alas!" said he, then I must die"
His soul went where they say souls
Fri.

They found his gloves and coat and hat,
And the coroner upon them
Sat.

THE FARMER'S HOME.

WEBSTER defines home as a "dwelling-place," but it admits of a broader meaning. There are brilliant and elegant homes. Some are wise, thrifty and careful, and others are warm and genial, by whose glowing hearths any one, at any time, may find enough and to spare. There are bright homes and gloomy homes. There are homes tnat hurry and bustle through years of incessant labor, until one another of the inmates fall, like the falling leaves, and the home turns to dust. We do not say the dairymaid's home compares with this last view. Science has done much to remove the drudgery in our homes, introducing ease and comfort. An ideal home must first have a government, but love must be the dictator. All should unite to make a home happy. Wt should have light in our happy. We should have light in our ent light. It matters not whether home is clothed in blue and purple, if it is only brimful of love, smiles and gladness.

Our boards should be spread with everything good and enjoyable. We should have birds, flowers, pets, everything suggestive of sociability. Flowers are as indispensable to the perfection of a home as to the perfection of a plant. Do not give them all the sunniest windows and pleasantest corners, crowding out the children. If you cannot have a large conservatory, have a small one. Give your children pets, so that by the care and attention bestowed upon them they may learn the habits of animals.

Of the ornamentation about a house, although a broad lake lends a charm to the scenery, it cannot compare with the babbling brook. As the little streamlet goes tumbling over the rocks and along the shallow, pebbly bed, it may be a marvelous teacher to the children, giving them lessons of enterprise and perseverance.

In our homes we must have industry and sympathy. In choosing amusements for the children, the latter element must be brought in. To fully understand the little ones, you must sympathize with them. When a child asks questions don't meet it with, "Oh, don't bother me!" Tell it all it wants to know. Never let your angry passions rise, no matter how much you may be tried. For full an intelligent happiness in the home circle, a library of the best works i necessary. Do not introduce th milk-and-water fiction of the presen day, but books of charcater. Ou homes should have their Sabbath and their family altars. Aroun these observances cling many of ou most sacred memories.—William H Yeomans.

THE GRIP EPIDEMIC.

Physicians are reporting an epe demic of grip throughout the citie of California. It is a contagious disease which often leads to serious results. It begins with a cold, usuall followed by a chill which develop fever and frequently pueumonia.

As soon as the disease reaches severe stage the patient should g to bed and stay there several days In every case warmth is essential Keep well covered, do not allow draught of air to reach the patient but sleep where plenty of fresh ai circulates in the room. Grip hate fresh air.

Physicians prescribe hot lemonad and whisky and ginger to warm th body, taken at bed time with plent of blankets to keep from quick coolin Stay in bed a week if necessary, un til the fever is broken. Take n chances after the fever is broken for an ounce of prevention is wort several pounds of cure.

If a cough develops, at the clos of the fever, a compound of equa parts of glycerine, whiskey and a littl bi-carbonate of soda is recommended Take every hour. The disease is no one to be trifled with. It is dangerous even in this climate, and must b overcome at its inception or it wil linger and result in a permanen affliction of some character. In th cities of Chicago, Denver and Kansa City, it is sweeping like a cyclon and hundreds are dying while thou sands are ill. It is best, however, t consult a physician and take medicin strong enough to combat the disease otherwise the patient may be sick fo a long time. The cities and towns ar most affected, but the country is als afflicted, as the malady is contagiou and is carried from one section t another.

DOCTOR APPLE.

An apple each day keeps the doct
away;
Another at night starves him outrigh
An apple each meal, and one for slee
Will kill him and shroud him and bur
him deep.

This little jingle should have place on the door of every medicin closet, and indeed if the apple we more generally regarded from medicinal viewpoint the contents the medicine closets could be ve largely dispensed with.

A prominent physician once s that "if one-half the meat, on fourth the bread and all the cand given to children could be made give place to fruit, of which appl formed a large proportion, the dea rate would be greatly reduced, the bodies better formed, and all wou be healthier and have far great brain activity."

Good, well ripened apples eaten reasonable quantities not only w never be injurious to a child grown person, but if taken as a foo are the most acceptable, satisfyi and healthful one that can chosen; and this is equally tr hether they be eaten fresh or after reserving, canning or drying.

As the apple contains more phoshoric acid in easily digested form han any other fruit, it is of high alue as a brain food. It is also a horough disinfectant of the mouth, hat important doorway to the stomch, and if eaten regularly does nuch to prevent throat diseases.

There is no better remedy for inomnia than a ripe, juicy apple aten just before retiring. Its wholeome acid excites the action of the iver and promotes sound and refreshng sleep.

For the same reason an apple aten before breakfast every mornng will prove the best of complexion eautifiers. No devotee of apples ver suffers from jaundice or liver pots, and dyspeptics are almost inariably ordered apples for their holesome action upon the digestive rgans.

The tickling sensation of the roat causing one to cough at night ay be greatly relieved by placing a asted apple by the bedside and king a spoonful of the pulp when noyed by a desire to cough.

As the apple can be had in fresh d perfect condition during a great portion of the year than any other the fruits, the appetizing ways of eparing it have grown to be legion, that one need never tire of it rough lack of variation. And as e heat applied in cooking breaks wn the cells, and more thoroughly ends the acids and sugar of the uit therewith, its wholesomeness d digestibility are increased by oking.

Wise in her day is the housewife d mother who numbers "Doctor pple" as a regular and honored ember of her household.—Advocate.

TO MAKE YOUR HANDS BEAUTIFUL,

Care of the Nails.

You will need:

A pair of sharp curved nail scissors.

A good file.

A cuticle knife.

An orange wood stick.

A plain, well-padded chamois polner—and, by the way, don't buy em in a set or case; pick each one t for its particular virtue.

You need, also—

A cake of good soap.

A bottle of peroxide.

A bit of pumice stone.

A box of paste and one of powder.

We will assume that you have not en as good care of your nails as u should have done.

If you can't go to a first-class manire and get stated right, this is the y to do it yourself:

Soak your fingers in water warmer n tepid. Do not put soap in the ter unless you want your hands to k as if you had been doing a wash. Trim the nails closely at the es, curving them to a little more gth in the middle, but dont have m look like claws. Bevel them with file. Put the orange stick into the ry soap and cleanse the nails in un and about the edges, pushing back cuticle at the base until the halfon shows. If the cuticle is ragged, it even with the scissors. If any eres to the nail remove it with cuticle knife.

You will never have those disaeable hang nails if you keep the icle free and well pushed back, and will not have to use the scissors the future, which is bad for the n.

ip the orange stick into the peroxide and remove any stains that the soap fails to reach. With the finger put a bit of paste on each nail. Dip the polisher in the lusterite and with it rub the nails vigorously.

Remove any powder from under or about the edge of the nails, wash the hands and dry thoroughly.

After a thorough manicure, which should be done weekly, all you need to do each day is to keep the nails clean and the skin pushed back at the base of them, so tne half-moon always shows.

HOMELY HINTS.

A few drops of essence of sassafras will keep flies away.

Unused silver will keep bright if laid away in a box of flour.

Cloves or salt sprinkled on a pantry shelf will rid it of ants.

You can make a faded dress perfectly white by washing it in boiling water.

Salt dissolved in alcohol will often remove grease from clothing.

Linen blinds can be cleaned by being laid flat and rubbed with powdered bath bricks.

A spoonful of mustard in a gallon of water will kill insects in the earth This is good for potted plants.

Two potatoes grated in a basin of water will give better results than soap in washing delicate flannels and woolen goods, ribbons.

You can remove the odor of fresh paint from a room by leaving there a pail of water into which several onions have been sliced.

A crack in the stove may be patched by filling with wood ashes and salt moistened just enough to work well. Smooth down neatly and cover with blacking.

SHE IS WISE.

Who keeps in mind that a little credit is a dangerous thing.

Who is able to mend both her husband's clothes and his ways.

Who has learned the paradox that to have joy one must give it.

Who can tell the difference between her first child and a genius.

Who most admires those eyes which belong to a man who understands her.

Who acknowledges the allowance made by her husband by making allowances for him.

Who appreciates that the largest room in any house is that left for self improvement.

Who realizes that two husbands of 25 years each are not necessarily as good as one of 50.

Who can distinguish between the laugh of amusement and the one meant to show off a dimple.

Who gets off a trolley car the right way—though she runs the risk of being arrested as a man in disguise.

JEFFERSON'S TEN RULES.

Never put off until tomorrow what you can do today.

Never trouble another for what you can do yourself.

Never spend your money before you have made it.

Never buy what you don't want because it is cheap.

Pride costs more than hunger, thirst and cold.

We seldom repent of having eaten too little.

Nothing is troublesome that we do willingly.

How much pain the evils that have never happened have cost us.

Take things always by the smooth handle.

When angry, count ten before you speak; when very angry, count a nundred.

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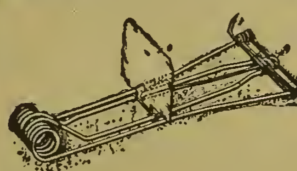

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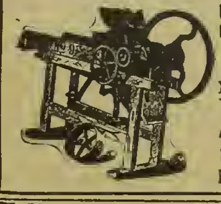

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FOR SALE—ABOUT 50,000 BLUE GUMS, fine plants ready any time after January 15th. Price low if ordered quick. H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

20,000 SEEDLING AND GRAFTED WALnuts, fruit, ornamental trees, palms, roses. A thrifty, well grown stock. A. R. MARSHALL, nurseryman, sales yard cor. Third and Main streets, Santa Ana, Cal.

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EGGS FROM MY PRIZE WINNING BARred Rocks; won all firsts, all seconds but one, and all specials on Barred Rocks at L. A. C. P. A. Show, 1907. Eggs from best pens, $3 per 15; $12.50 per 100. Stock for sale. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

WHITE LEGHORNS (HOWARD STRAIN), W. Wyandottes (Hubbard strain) Eggs; Leghorns, $5 per $100; Wyandottes, $7. Baby chicks FROM BRED TO LAY STOCK SHIPPED anywhere. Ranch 2 blocks from car. F. T. McLAUGHLIN, Gardena.

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BRONZE TURKEYS AND BARRED Rocks a specialty. Are noted for size and hardiness; all birds sold that I can spare. Fertility guaranteed. Am booking orders for eggs for hatching. Turkey eggs, $5.00 setting; Barred Rocks, $3.00 setting. Address, A. H. BLAKELY, rd No. 2, Ontario, Cal.

BLUE ANDALUSIANS. WON ALL PRIZES at Los Angeles County Show, 1907. A few good trios and pens; also good breeding cockerels; eggs for hatching, $2 and $2.50; no better stock anywhere. MRS. T. R. GRIFFITH, 3111 Walton ave., Los Angeles, Cal.

BLACK-TAILED JAPANESE BANTAMS; winners wherever shown. A lot of good youngsters at $5 and $7 per pair if taken soon. Eggs $2 and $3.50 per 15. F. J. IRONMONGER, 127 N. Garfield Place, Hollywood, Cal.

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FOR SALE—2 EXTRA FINE SILVER laced Wyandotte roosters, 1 year old; $5 each, freight prepaid. A. WOOD, Box 38, Greenfield Cal.

FOR SALE—BLUE ANDULUSIANS, A few cockerels and two or three trios. Eggs later. I. H. WALKER, Olinda, Shasta Co., Cal.

FOR SALE—MAMMOTH BRONZE TURkey hens, $2.00 each if bought in lots of ten. Address, Mrs. W. B. RICHARDS, Holtville, Cal.

FOR SALE—PRIZE PARTRIDGE WYANdotte cockerels; all prize winners; from $10 to $25. C. L. HOGUE, San Gabriel, Cal.

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EXTRA HIGHGRADE CHILIAN WATERmelon seed. White or red; sixty cents per pound. Fancy pineapple cantaloupe seed, 80 cents per pound by express. Mail fifteen cents additional—no culls. S. FAIRBURN, Burbank, Cal.

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FOR SALE—20,000 CORNICHON GRAPE cuttings; strong wood 18 inches long, at $5.00 per 1000; 500 fine plants ,German Box, out of 5-inch pots, $20.00 per 100; 1000 Phoenix Canariensis 4 feet and over, established, $1.00 each; 1000 Washingtonia Robusta and Philippera 3 to 4 feet (balled or established.) H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

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SIX HUNDRED THOUSAND STRAWBERry plants for sale—Klondike, Excelsior, Enhance A1 and Texas, $2.00 per thousand; Arizona, $3.00 per thousand, f. o. b. Gardena, (after February 10th all plants will be $1.00 per thousand more.) Address D. P. DUNCAN, Gardena, Cal.

FOR SALE—MAMMOTH BLACKBERRY, 100, $3; 1000, $25; Himalaya Giant blackberry, 100, $4.50; 1000, $35. Express prepaid to California points, ADELBERT COOLEY, Laton, Cal.

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STRAWBERRIES, 91 SELECTED VARIEties, list and prices on application. TRIBBLE BROS., Elk Grove, Cal.

FOR SALE—THRIFTY, YOUNG WALNUT trees. Grown from selected softshell seed. $25 per hundred on car at depot. A. M. HOEL, Goleta, Cal.

WANTED—PRIMUS RASPBERRY, PHEnomenal and Logan plants, Address, LOCK BOX 64, Gridley, Cal.

MACHINERY.

FOR SALE CHEAP—ONE JUBILEE INcubator and one Jubilee brooder. Used one season. HEMPSTEAD & CURTIS, Charter Oak, Cal.

FOR SALE—6-H. P. FAIRBANKS-MORSE gasoline engine in perfect running order, at a snap. 943 N. MAIN ST., Los Angeles, Cal.

FOR SALE—50 AND 60-H. P. FAIRBANKS-Morse distillate engines, both in A1 condition, at a bargain. WAITE, BAILIE & CO., Los Angeles, Cal.

FOR SALE—15-H. P. OTTO DISTILLATE ENgine, almost new; at a bargain. 117 BRUNO ST., Los Angeles, Cal.

ARTICHOKES.

FOR SALE—JERUSALUM ARTICHOKES—The great winter hog feed. Address FANCHER CREEK NURSERIES, Fresno, California.

FARM LANDS FOR SALE.

FOR SALE—1 to 10-acre tracts on car line between Riverside and new cement works. Good for chicken ranches, alfalfa or gardening. Will sell on easy terms. Plenty of water on each tract. C. C. POND & N. R. BELL, Riverside, Cal.

FOR SALE—40 ACRES, LEVEL; FINE for chickens, vegetables, berries, etc., $30 per acre; a bargain. WM. MANTZ, Santa Maria, Cal.

HORSES.

FOR SALE — OR TRADE FOR COWS, 3 good brood mares, ages 12, 10 and 5 years;. Will sell cheap, as I have no use for them; also a good ranch for sale on easy terms, and one O. K. hay press. Address C. E. GARRETT, Hynes, Cal.

WILL EXCHANGE 54 ACRES LAND 12 mile from Riverside for work stock horses or mules. Address, S. M. LESTER, 269 California Avenue, Riverside,, Cal.

PHEASANTS.

"PHEASANT FARMING," ILLUSTRATED, 25c. Tells how to raise pheasants. Birds and eggs for sale. SIMPSON'S PHEASANT FARM. Box C247. Corvallis, Oregon.

GRAPE CUTTINGS WANTED.

WANTED—CUTTINGS OF THE FOLLOWing for grafting purposes: Rupestris St. George, Riparia x Rupestris 3306, Riparia x Rupestris 3309, Riparia x Rupestris 106-8 and Mourvedre x Rupestris 1202. Address FANCHER CREEK NURSERIES, Fresno, California.

POTATOES.

SWEET POTATOES FOR SALE—50 SACKS small sweet potatoes suitable for seed. $1.50 per sack in 5-sack lots or over. F. O. B. Anaheim. H. E. HUNT, Anaheim, Cal.

FOR SALE—YELLOW SWEET POTATO seed, 2½ cents per pound. E. G. METCALF, Phone Home Black 31, El Monte, Cal.

CATTLE.

FOR SALE—A THOROUGHBRED JERSEY heifer 9 months old. Inquire CALIFORNIA CULTIVATOR or FRANK DOUGLAS, Hollywood.

LOAN WANTED.

LOAN OF $2000 ON 52 ACRES TO FURTHer improve. Raisins pay 7 per cent net. Safe. BOX 81, Armona, Kings Co., Cal.

The Produce Markets

Los Angeles Markets

LOS ANGELES, Jan. 29, 1908.

Butter.

Butter is stationary and fairly firm at last week's quotations. Fresh stock commands ready sale with storage going begging.

Creamery ex per roll	.70
Firsts	.55
Dairy	.45
Cooking	.45@47
Eastern	.55@60
"Butterine"	.15@20

Cheese.

Cal Young America per lb	.20½
Hand	.20½
California Anchor	19
Northern fresh	.17
Eastern singles	.19
Imported Swiss	.32
Tulare flats	.18½
Domestic Swiss	.21@22
Oregon	.18

Eggs and Poultry.

Eggs are still declining, though the weather will tend to stop deliveries, and it is probable the decline will be stopped for a few days.

Eggs local candled	.28
Eggs case count	.26@27½
Eastern storage	.17@18
Hens per lb	.14
Young roosters per lb	.15
Fryers	.18
Broilers per lb	.21
Old roosters	.8
Turkeys	.15½
Geese	.13
Ducks	.16
Squabs	1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds	.6
Prime steers	.4½
Heifers	.4
Calves per lb	.4½@5
Sheep ewes per head	.4.75
Lambs per head	.3.75@4.25
Wethers	.5.50

Potatoes.

Highlands	.1.15@1.35
Early Rose	.1.75@1.95
Salinas	.1.75@1.85
Sweet Potatoes per sack	.2.35@2.75
Oregons	.1.25@1.50
Idaho	.1.25

Onions.

Yellow Danvers	.2.85
Australian Browns	.3.00@3.50
Oregons	.3.30@3.50
Minnesota	.3.00@3.50
Garlic	.10

Vegetables.

Artichokes per doz	.75@1.00
Beets per doz	.25@35
Bell peppers per lb	.9@12
Beans limas per lb	.10@12
Beans green	.14@15
Brussels sprouts per lb	.6½@7
Cabbage sack	.60@90
Celery per crate	.1.80@2.00
Chili peppers green lb	.2@2½
Cucumbers per box	.50@1.00
Cauliflower	.25@40
Carrots per doz	.30@40
Egg plant	.10
Green onions doz bunches	.20
Hubbard squash per lb	.1@1½
Lettuce per crate	.75
Pie Pumpkins	.1½
Peas sugar per lb	.6½@8
Parsley	.30
Parsnips	.35@40
Rhubarb per box	.1.00
Radishes per doz	.15@20
Salsify	.30
Spinach per doz	.10@25
Squash crate	.1.00
Turnips doz bunches	.40
Tomatoes per box	.1.75@2.00

Citrus Fruits.

Navels fy	.1.60@1.75
Navels ch	.1.25@1.50
Tangerines	.1.60@1.75
Culls	.75@90
Grapefruit seedless	.2.50@3.00
Grapefruit seedlings	.1.75@2.00
Lemons fancy	.1.25@1.50
Lemons choice	.1.00@1.25

Fresh Fruits.

Bellefluers	.1.90@2.00
Baldwins	.1.25@1.50
Pippins 4-tier	.1.50
Gravenstein	.1.50
Alexandria	.1.00@1.50
W W Pearmains	.1.75
Colorado Jonathans	.3.50
Guavas	.6@8
Winter Nellis per lb	.7
Pomegranates per lb	.7
Persimmons	.6
Quinces	.1.25
Raspberries	.15@20
Strawberries	.8@10

Dried Fruits.

Apricots	.17@21
Evap apples fy per lb	.10½@11½
Figs loose	.4@6
Peaches	.12@13
Pears	.12½@13
Nectarines	.13@14
Prunes	.3½@5½
Plums	.11½@13

Beans Dried.

Limas per ctl	.5.30
Pink No 1	.3.65
Lady Washington	.3.75@3.95
Small White	.3.75@3.85
Black eyes	.5.00
Garvanzas	.5.25@5.75
Lentils	.12@12½

Nuts.

Almonds per lb	.17
Peanuts Virgina	.8½
Peanuts California	.8½
Walnuts No. 1 SS	.17

Honey.

Extracted Water White	.6@7
Comb W W	.11@13½

Hay.

Barley No 1	.14.00@18.00
Barley No 2	.13.00@14.00
Alfalfa northern per ton	.15.00@17.00
Alfalfa new local	.15.00@17.00
Plain Oat No 1 new	.16.00@18.00
Wheat No 1	.18.00
Wheat No 2	.14.00

Grain.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl	.1.8
Wheat in 100-lb. sacks	.1.9
Barley	.1.5
Corn Eastern sacked	.1.8
White oats	.1.9

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn	.1.
Shorts	.
Bran	.1.5
Oil cake meal	.2.5
Feed meal	.1.9
Rolled barley	.1.7

ANOTHER LAND OPENING.

The Kern Island lands just a fe miles south of the city of Bakersfiel have at last been thrown open, and a the remarkable old time land prices o only $25 an acre. These lands wer held for many years by the great la and cattle companies of Kern count and have not been advanced in pric like in some sections of the big Sa Joaquin valley. The land is in the A tesian belt; has all been under cult vation at one time, and those wi take it may develop their own flo ing artesian wells or buy water righ from the Kern river canals at only $ an acre for a perpetual right. Pr fessor Fowler, formerly conductor farmers' institutes for the State Ur versity, has experted the lands a pronounces them equal to the be sandy loam soil in the State. T opening of these lands is in charge the California Home Extension Ass ciation of 102, Chamber of Commer Building, Los Angeles.

MODERN PRACTICE IN "AMEI ICAN" CENTRIFUGAL PUMP CONSTRUCTION BULLETIN NO. 104.

is just issued by the American W Works, Aurora, Ill. It illustrates the styles of centrifugal pumps ma for such purposes as farm irrigati drainage, brewery pumps, fire pu and many other similar purpo This well known firm also furnis complete literature in regard to chinery for well drilling, oil, gas Our readers will do this publicatio favor by stating where they read notice, in writing this firm.

A TRAIN LOAD.

Tim Carroll of Anaheim is one of oldest nurserymen of California has the biggest stock of palms to found on this big, round globe. they are beauties and they are ones. Canariensis and Robustas his heaviest lines, but bless you, if want anything in hardy palms write Tim Carroll at Anaheim.

Anything from a two-bit plant t train load can be supplied at his series.

The Curtis Silk Farms will move their silk worm Cocoonery t the temporary quarters corner B Vista St. and Solano Ave., Los geles, to their farm in the San Ga valley. Further cultures will be on the Farm where they have a th mulberry grove to furnish fodder the ravenous army of silk spinne

San Francisco Markets

SAN FRANCISCO, Jan. 28, 1908.

Butter.

The week has seen no change in quotations on fresh extras, but firsts and storage have both declined. The general condition at present is fairly firm, but further decline predicted as weather warms up.

The current prices on dairy products in San Francisco are always from 2 to 3 cents higher than the rates given in the daily official list of the Wholesale Dairy Produce Exchange. The retail dealers in this city invariably pay an additional 2 cents per pound on butter and per dozen of eggs, and occasionally it is 3 cents. On cheese the increase is 1 cent per pound. By making these additions to the Dairy Exchange prices the producer in the country can always determine the actual prices ruling in this city. The quotations as prepared by the San Francisco Wholesale Dairy Exchange yesterday were as follows:

California extras per lb	34½
California firsts	25
California seconds	22
Eastern extras	23
Storage Cal ex	23

Cheese.

California young American fy	15
California flats fy	14½
Eastern fy	17½
Oregon fancy	15

Eggs and Poultry.

Fresh ranch eggs	23½
Eggs firsts per doz	22½
Eggs seconds per doz	21
Storage Cal Extra	17½
Eastern selected	15
Eastern firsts	14

Six cars of Eastern poultry arrived Sunday and Monday, but they were not sufficient to depress the market unduly.

Hens per doz	4.50@6.00
Hens extra	6.00@7.00
Young roosters	6.00@6.50
Old roosters	4.00@4.50
Fryers per doz	5.00@6.00
Broilers per doz	4.00@5.00
Geese per pair	2.00@2.50
Ducks young	4.00@5.00
Turkeys per lb	15@16
Pigeons	1.00@1.25

Live Stock.

Steers No 1	8½@9
Do second quality	7½@8
No. 1 cows and heifers	6½@7
Hogs 80 to 200 lbs	5¾@6
Hogs 200 to 300 lbs	5½
Calves per lb	4@5½
Lambs	6½@7
Wethers No 1	5½@6
Ewes No 1	5@5½

Potatoes.

River whites	85@1.00
Oregon Burbanks	90@1.25
Early Rose	1.10@1.30
River Reds	1.35@1.40
Salinas Burbanks	1.00@1.10
Sweets per crate	2.75@2.85

Vegetables.

Celery per crate	75@1.00
Cucumbers per doz	1.00@1.50
Chili pepers per lb	6@12
Bell peppers per lb	12@22½
Beans Limas	12@15
Egg plant ped lb	10@12½
Green peas per lb	5@6
Squash per box	50@1.25
Marrowfat squash per sack	60@75
Mushrooms	15@40
Hubbard squash per sack	60@80
Rhubarb per box	1.75@2.00
Tomatoes local	2.00@2.50
String beans	15@17½
Garlic	4@6

Onions.

Onions br Australian per ctl	1.75@2.00
Yellow Danvers	2.75@3.00
Lompocs	2.50@2.75

Citrus Fruits.

Navels fy	2.50
Navels ch	1.25@2.25
Grapefruit seedless	2.50@2.75
Lemons	1.50@2.50
Limes	3.00@4.00

Fresh Fruits.

Newtons	1.50@1.75
Spitzenberg	1.75@2.00
Pears winter Nellis	2.00@2.50
Pomegranates per box	1.00@2.50
Quinces per box	1.00@1.25
Strawberries per ½ crate	1,25@1.50

Dried Fruits.

Apples (evap.)	7¼@9
Apricots per lb new	18@20
Figs white	3½@5
Nectarines	10@13
Plums pitted	12@15
Peaches	9@11
Pears	9@12
Prunes 4 size bag basis	4@4½

Beans Dried.

Limas	4.75@4.90
Pink	3.15@3.25
Small white	3.35@3.50
Large white	3.00@3.10
Lady Washington	3.30@3.45
Black Eyes	3.50@3.75
Red Kidneys	3.25@3.50
Garvanzas	4.00@4.25
Bayo	3.15@3.25
Horse beans	2.25@2.40

Hops.

Hops per lb	5@8½
Hops old fancy	2@3

Nuts.

Nonpareil	13½@14
Ne Plus Ultra	12½
Walnuts No 1	13@13½

Honey.

Clear white comb	15½@17
Amber	12@15
Extracted	7½@8½
Beeswax No. 1 per lb	26@27
Beeswax No. 2 per lb	23@25

Hay.

Receipts of hay for the past week amounted to 2350 ton, considerably less than last week's arrivals and, in fact, less than has been received for a considerable time past. Cars are very plentiful throughout the State and, of couse, there is a large quantity of hay available for this market, and the recent decrease in shipments can only be accounted for by the fact that holders of hay are unwilling to sell their stocks at the present range of prices. Although receipts have been fairly, evenly distributed during the week, yet it was only during the last couple of days that we could see any better feelings at all on the market, as there was so much surplus stock on hand here both for sale and in consumer's barns. The better feeling during the last few days is not very marked, and conditions will be governed by the amount of hay which holders are willing to send to this market.

Consumption of hay in the interior continues very heavy and many of the holders of hay who anticipated sending their stocks to San Francisco are disposing of it elsewhere to better advantage.

Alfalfa local	9.00@13.50
Tame oat choice	11.00@15.00
Wild oat	9.00@12.00
Wheat and oat	11.00@15.50
Wheat choice	16.00@17.50

Grain.

Wheat No 1	1.65@1.70
Barley No 1	1.52½@1.55
Corn large yellow	1.60@1.65
Oats white	1.55@1.60
Oats red	1.75@1.90

Feed Stuff.

Bran per ton	28.00@29.50
Straw per bale	50@85
Feed cornmeal per ton	37.00@37.50
Cracked corn per ton	37.00@38.00
Rolled barley per ton	30.00@32.00
Oil cake meal per ton	38.50@40.00
Cocoanut cake, per ton	25.00@25.50
Middlings	31.00@32.00

Citrus Market

LOS ANGELES, Jan. 29, 1908.

The orange market has been rather streaked for the past week. Some of the Middle West sections, likewise some of the farther Eastern markets are depressed, partly perhaps by the weather prevailing there, also by liberal shipments. It is hoped the slower shipments forced by the storms will equalize conditions and give better prices.

The storm came with nearly all packing houses filled with fruit and this surplus has kept houses busy until this time. The storm has now passed, apparently, and fruit delivery will soon be resumed, so there will be but slight delay.

Lemons still command a fair price, though many foreigns are still arriving. Local shipments are going forward with regularity.

Total shipments of citrus fruits to date since Nov. 1, 5356 cars, of which 944 were lemons. Same date last season 4075 cars, of which 555 were lemons.

NEW YORK, Jan. 17.—Sixteen cars navels, one car Arizona navels, and one car lemons sold. There is a little better feeling on navels, and prices are generally higher on best fruit. Lemons are also doing better and prices are higher. Weather is clear and favorable.

NAVELS—	Avg.
Sunflower xf CCU Dist 1	$2.20
Hollywreath fy CCU Dist 18	2.10
LaMesa xf Riverside F Ex	2.30
Iris xf DM Ft Ex	2.20
Golden Rule xc Riverside	2.15
Royal Knight xf Red High Ft Ex	2.15
Fayette fy Penn Ft Co	2.15
Scout ch Penn Ft Co	1.95
Criterion Riverside Ft Ex	2.10
Blue Globe xf Riverside Ft Ex	2.20
Sphynx ch TCCC Ft Ex	2.00
Pointer ch ACG Ft Ex	1.90
Independent o r Growers' Ft Co	2.10
Old Mission fy C C Chapman	2.30
Golden Eagle st C C Chapman	1.90
Producers Red O P Co	2.30
W. Highland o r Grs' Ft Co	2.10
Orchard xf Nat Or Co	2.75
Rose xf Red O G Assn	2.20
Clover xc Red O G Assn	2.05
ARIZONA NAVELS— —	
Desert brand	2.60
Half boxes	2.05
LEMONS—	
Independent fy Grs' Ft Co	3.25
Standard	2.40
W. Highland o r	2.30
Orchard Run	2.70
Choice	2.30

ST. LOUIS, Jan. 27.—Weather favorable. Market is weak. Five cars sold, nine cars on track.

NAVELS—	
Golden Rule xc Riv	2.20
Belt st RH Ft Ex High	2.05
Lochinvar ch SSF Ex Orange	2.00
LEMONS—	
Ramona ch Chas Mohnike	2.00
Golden Strand xc Colton Ft Grs	2.15
Camelia xf Red Mut o Co	2.50

CINCINNATI, Jan. 27.—Weather is cold. Market is weak. Four cars sold. Five cars on track. Florida Brights $1.40 to $2.00; Russets $1.00 to $2.15.

LEMONS—	
Pet xc S A Ft Ex San Dimas	3.45
Duck st SA Ft Ex San Dimas	2.90
Greyhound ch SA Ft Ex San Di	3.35

PITTSBURG, Jan. 27.—Market is weak. Weather cold.

NAVELS—	
Circus ? ?	2.05
Solano fy or Stewart Ft Co	2.10
Cactus xc High Ft Grs	2.15
Blue C fy Covina Ft Ex	2.10
Pointer ch ACG Ft Ex Ch Oak	2.05
Gold Finch ch SS Ft Ex El Mod	1.85
Blue C fy ti Covina Ft Ex	2.25
Pico st ST Ft Ex Whittier	1.90
El Modena st SS Ft Ex El Mod	1.65
LEMONS—	
Circus ? ?	2.45

PHILADELPHIA, Jan. 27.—Six cars navels, two of lemons sold. Weather cool and cloudy. Market unchanged on navels. Five thousand boxes Floridas sold. Market unchanged.

NAVELS—	
West Highland o r Cleghorn Bros	2.13
Independent st Cleghorn Bros	1.90
Whittier xc STF Ex Whit	1.90
Uncle Sam xf Riv Ft Ex	2.18
Standard st Riv Ft Ex	1.78
Independent o r Cleghorn Bros	2.01
Victory xc Cal Cit U	1.82
Pico st STF Ex Whittier	1.88

FRUIT GROWER AND PARCELS POST.

Continued From First Page.

shipped in the cars, and thence delivered at the house of the addressee in such quantities as suit his convenience. Similarly, goods can be shipped to him from any part of the kingdom and delivered at his gate. It does not matter one whit whether it is cream, butter, eggs, fruit, fish or fowls, anything goes, goes on time, and gets there on time. One firm shipped 70,000 parcels in two days.

Just how useful such an institution would be to us each, one can readily picture for himself. The endless waste of time, and the constant annoyance daily experienced for lack of such service. we all too keenly realize. The comfort of such an institution, the saving of cash and energy, of time and temper, also appeals to us all. Whether we are to enjoy this inestimable boon to all classes depends on ourselves. We are too prone to relegate our responsibilities on that impersonal thing we call our government. We forget that WE are the government, and that unless THE WE people issue OUR mandate, no reforms are possible. All reforms come from outside pressure, not from spontaneous internal action. It is for you to instruct your congressman in such forcible and unmistakable terms as shall leave him no option but to vote for an up-to-date parcels post or make way for one who will.

IT'S PENNY WISE.

Policy to set out a good tree, costing good money and then let the sun burn the bark or the rabbits gnaw it when for $1.00 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Manufacturing Company, 1380 Willow Street, Los Angeles.

The Brust Portable Automatic Derrick

is the greatest labor saver on earth—if you doubt it, buy one and convince yourself. Two men and a boy will unload and stack a two ton load of hay in less than ten minutes and will load out of a stack on to a wagon in the same length of ime. Makes loading baled-hay an easy and quick job. No guy-ropes required and always ready for use.

For descriptive circular and prices, write to
Schmeiser Mfg. Co., Davis, Cal.
Sole Manufacturers. We also manufacture the well-known Schandoney Equalizing Hitch

Have You Money?

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An absolutely safe and very profitable investment, for high-grade Railroad and Industrial Stocks will greatly increase in value from now on.

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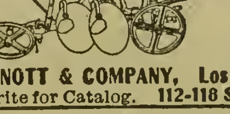
Can You Equal This?

20 acres, 10 in apricots and peaches, just in bearing 1-2 acre blackberries. Rich, sandy soil. Fine well, windmill, gas engine and tank; all water needed for irrigating. Blue gum grove lots fuel; also surrounded by cypress hedge. Six-room house completely furnished. Barn, 6 tons hay, 2 cows, 1 horse, wagons and all tools needed. 500 laying hens, 13 chicken houses, incubator, brooders, etc. 1 mile from Nipoma; $2800 takes the whole shooting match; $1500 down.

Your living made from the start, and no equipment to buy. Splendid location.
Act quick.
Unexcelled climate.

M. L. Curtis, San Luis Obispo, Cal.

SANDERS-ARNOTT DISC PLOW



All Sizes for Orchard, Field or Engine
24 inch and 28 inch Discs
Agents Wanted
ARNOTT & COMPANY, Los Angeles, Cal.
Write for Catalog. 112-118 S. Los Angeles St.

Bronze Turkeys

Breeding stock and eggs for sale. Gobblers $5.00 to $10.00 each. Hens $3.00 to $5.00 each. Eggs 10 to 25c each.
C. E. Bunker
San Jacinto, Cal.

Samuel Brown, Nordhoff, says: "Find $1.00 for renewal for 1908. Can't get along without the Cultivator at our house."

Fertilize with
Nitrate of Soda
May be purchased in large or small lots from
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50 Clay Street, San Francisco, Cal.

Here's Your Chance

To buy that little Engine you've always wanted for the ranch.

Peerless Engines

3-H. P., $100
5-H. P., $170
6-H. P., $200

Fully guaranteed. We must have the room to keep our Alamo stock complete.

Norton Engine & Power Co.

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Los Angeles

The O K Gasoline Engine

The Newest and Best in the Market

Strictly high grade and guaranteed absolutely.

For All Power Purposes

Made in Vertical and 2-cylinder double opposed from 2 to 50 H. P.

The Most Simple, Economical and Lightest Engine made. Call and see it demonstrated. Then you'll buy the O. K.

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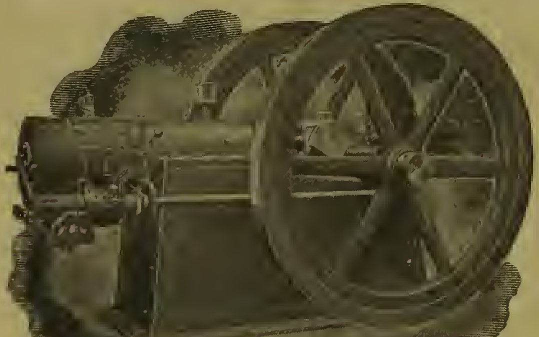

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Have Stood the Test
14 Years

Fully guaranteed. Most simple and economical engine on the market today. You can't go wrong on a Columbus

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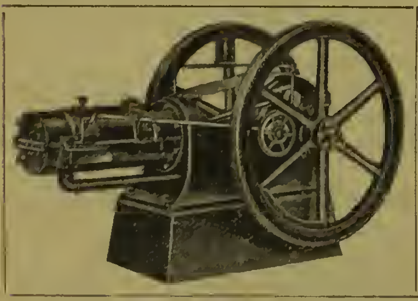
Los Angeles, Cal.

Commercial Gas Engines



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Write for Bulletin No. 11.

Commercial Engine Company
953-5 North Main Street, Los Angeles

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It paid you last year, although you bought your water. You will probably own your own pumping plant this season. Write for our booklet entitled, **"The Gas Engine and How to Care for it."** And learn how to install and operate your own plant. Send five cents in stamps.

Federal Gas Engine Co.
704 Union Trust Bldg. Los Angeles, California

National Wood Pipe Company

Woodward Pat. Machine Banded Pipe, Wheeler Pat. Continuous Stave Pipe, Bored Wood Water Pipe

Made from California Redwood **WOOD PIPE** Or Selected Puget Sound Yellow Pine

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Are Strong and Durable Fully Guaranteed in every Particular. We make complete Irrigation Outfits.

Samson Centrifugal Pumps
Are the Best.

Enlargement of our factory makes it possible for us make prompt delivery.

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Equipped with their air-cooled engine, which is a great advantage, making it much lighter and easier to operate. Send for circular and Price List 6802 to

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Dealers in All Kinds of Machinery
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The Highest Grade Made. Won First Prizes at Sacramento and Porterville Fairs. Large Stock always on hand. Send for Pump and Engine Catalogues.

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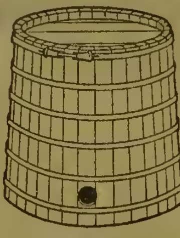

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WINDELER'S PLANING MILL AND COOPERAGE

GEO. WINDELER, Prop

Water Tanks, Wine Tanks made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

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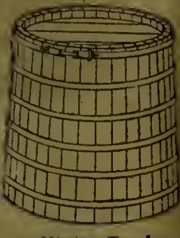
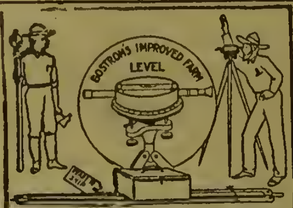
144-154 Berry St. San Francisco, Cal.



Water Tank



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Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod rod $12.50.

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456 Golden Gate Avenue, San Francisco
Coast Agents.

Send for Circular.

This is a cut of the

NEW POMONA DOUBLE PLUNGER DEEP WELL PUMP HEAD

for raising water for all purposes. It is highly efficient, thoroughly reliable and the smoothest running deep well pump made. It is built in three sizes from 10 to 40 Horse Power. Send for new catalog to

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500,000 FEET OF WATER PIPE

All sizes, Galvanized and Black, slightly damaged.
Special Price While It Lasts. Phone or write.
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California Cultivator

os Angeles February 6, 1908 San Francisco

Our Citrus Special Next Week

Next week's Cultivator will contain a fund of information on Citrus Culture which will be of value to many readers.

J. W. Mills will touch upon Citrus Culture in California, location, bud variation, types of trees, planting trees, etc.

S. A. Pease will give details of fumigation. How to make the tent sheets, prepare them so as to hold the gas, size of dose, time of exposure, etc.

J. H. Reed will discuss as to whether a fruit grower on thousand-dollar land can afford to waste any of it by planting large growing trees along the streets.

B. J. Jones will write of lemon pruning, discussing both old and new systems.

Citrus conditions at Oroville will be described by a local writer.

We hope A. E. Miot will write of conditions in Tulare county.

John Isaac will talk of Northern citrus conditions in general.

There will also be a short history of the greatest co-operative fruit marketing organization in the world.

Also other features not here mentioned.

It will be a good number regarding a great industry.

Everything for Spraying

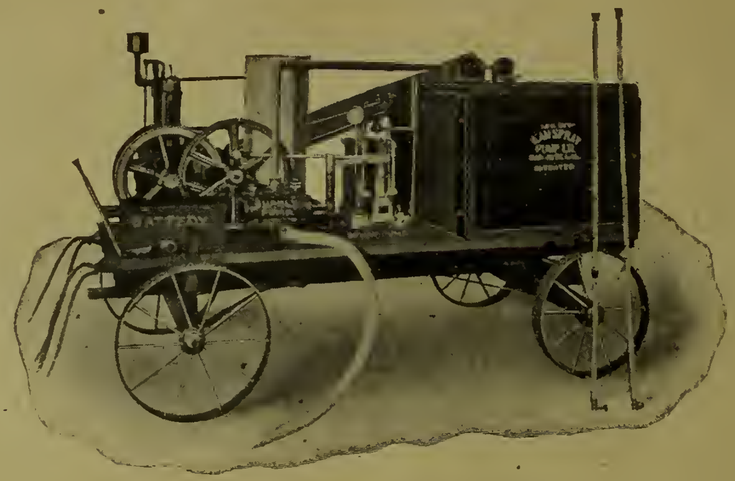
Let us quote you on everything you need including bluestone, arsenate of lead and all spraying materials. We have the best goods for the purpose, lowest prices and make prompt shipments.

Spray Dollars

Many growers who sprayed this year for the first time secured $200 more per acre for peaches than ever before.

Don't think your orchard is too far gone. We will help you make it pay and your success will bring us other orders.

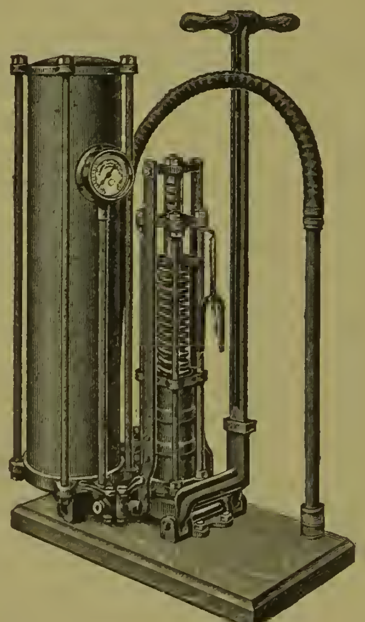
Fitted with aluminum spray rods and other new good improvements.



On Your Trees

Bean Power Sprayers are known the world over. Simple, complete and ready for use.

If you have an engine let us built it into a complete machine. We can supply anything you want. A complete outfit will save you money and trouble. Built for high pressure and with large capacity.



BEAN MAGIC PUMPS

(TWO SIZES)

The Two Easiest Running Spray Pumps Made

These pumps were awarded First Prize by the Government Experts who were judges at the International Exhibition at Christchurch, New Zealand, with this commendation: "We find these Magic Pumps operate with more than one-third less labor. This is due to the improved spring attachment. They also have other improvements."

No wonder they are big sellers! Think of what this means—Saving of one-third of all your labor cost. Putting the material on with one-third higher pressure. The pump simplicity itself; no valve or other trouble, but thorough spraying at the least possible expense.

The saving in labor will pay for the pump and your spraying will be so much better done that any other pump would be expensive if you got it for nothing.

Send for Catalogue No. 20 for full description and prices. Freight paid to your station. If you want to get results investigate these pumps at once.

SPRAYING AND WHITEWASHING

Have you a "family orchard?" Have you whitewashing to do?

This is a splendid outfit for small jobs—no matter what materials you use.

This No. 60 is a very simple pump, easily mounted on a barrel, and it won't wear out—except two of its inexpensive parts—while you are here to tell about it.

CATALOGUE NO. 20 DESCRIBES FULLY

Price is low, delivered at your railroad station. Write us.

BEAN'S LITTLE GIANT

The Best Barrel Pump

Everything you could want in this style of pump. Fastens in any barrel or tank.

Agitates perfectly. Has large air chamber. Also ball valves and never-wear-out cylinder.

You can't afford to HIRE YOUR SPRAYING DONE when you can get so good a pump for so little money.

Write us for prices on this pump delivered at your depot.

Also all spraying materials.

BEAN SPRAY PUMP COMPANY

161 West Santa Clara St., San Jose, Cal.

California Cultivator

ol. XXX—No 6 Los Angeles, California, Thursday, February 6, 1908 Subscription $1 a Year

Commercial Value of Ornamental Trees

California's Sequoias Bring Millions of Money to This State. Eucalyptus Have Proven to be Wonderfully Adapted to Our Conditions.

A Paper Read Before the State Fruit Growers' Convention

Prepared by C. B. MESSENGER of the Cultivator Staff

OMETIME since when one of the largest tourist hotels near Los Angeles was being constructed, it became desirable to make tain changes in the plans. After the archit's changes had been accepted and contract , it was found on making measurements that e of the many fine large live oaks must be saciced. This was contrary to the wish of the ner and he demanded that still other changes plans be made so as to save the old oak. is the contractor refused to do as it would cost large sum. Instructions were finally given, wever, that the changes should be made so as save the tree, providing the additional cost to e owner should not exceed $5000.

Five thousand dollars may then be taken as at one man's estimation of the value of that k in that particular location.

other at $500.

Again, upon the occasion of widening a street Los Angeles it became necessary to destroy a autiful "Poke Root"—Phytolacca. The owner fused to have it destroyed, unless he be comnsated for the loss of a tree which to him was great value. The matter was referred to arrators and after consideration of the facts he is allowed the sum of $500 for his tree.

Other instances might be given where a price is been placed upon a tree or a number of em, or where large sums have been spent in curing and moving to a certain location trees hich appealed to the fancy of the owner. But e above two instances may be sufficient to use us to ask, can any such value be placed on trees?

Let us grant that the first instance of the $5000 aluation is extreme, and while it may obtain gain. it is highly improbable. But the second stance surely is not, for after careful consideraon fair men made such award as compensation r its destruction.

But aside from the financial value—the calcuted, hard and fast value of so many pounds nd ounces for so many dollars and cents—let us ok at another value, still greater. Let us go ack to the old days when the "wood lot" was mmon, when a whole community gathered on e bank of the river under the great sycamores, alnuts, maples and beeches and enjoyed a day f unadulterated happiness. Such a grove rought many a stray dollar to a community.

oin as Well as Sentiment.

It is not possible to compute the amount of old poured into Switzerland's lap because of er wonderful mountains. Neither is it possile to compute the gold poured into California ecause of the fame of her giant Sequoias. The mber man looks, with measuring stick in and, and begrudges the waste of such a vast uantity of lumber as one of those trees contain. ut should the greed of immediate possession vercome the more far-sighted and enlightened olicy of protecting our great heritage? It will e a sorry day, indeed, for California, and result n the loss of millions—millions, not of sentiment nor in simple pride that one can stand and oast that "WE have the largest trees on earth" –but millions of hard dollars.

But why reduce the consideration of those oble friends of ours to such a sordid basis? Is ot our love for the Sequoia of the Sierras, or he oak of the hills, or the Sycamore of the valeys and canyons sufficient to protect them?

Too often it is not. Within a stone's throw of my home I can look down on hundreds of fine sycamores lining either side of Arroyo Seco; yet often I can hear the axe claiming the gnarled old giants for a few more cords of stove wood for the owner, too ignorant to appreciate the great patrimony he is sacrificing. And as to the love of saving them, there would be fewer of them today if that were the only consideration.

Financial Considerations Win.

Let us illustrate: A few years since temperance, or so-called prohibition, sentiment began to be agitated in many Southern California towns. Year after year a campaign more or less hysterical, with Ten-Nights-In-a-Bar-Room scenes, and strong appeals to sentiment and sympathy was waged with indifferent success on one side then on the other.

Courtesy Out West Magazine.

But presto! It was discovered that the town without the saloon was securing a class of people which all towns wish to secure to help upbuild and make them move in step to the twentieth century swing. That moment the appeals to sentiment and sympathy ceased, and a cold-blooded consideration of wiping out anything inimical to the best financial interests of the town began to win favor and win votes, and the suddenness with which saloon changed to no-saloon towns surprised all.

"What is there in it?" is the question which springs to the lips of every American.

Now, then, what is there in it for California if she will protect her few trees, and more, if she will plant for the future? To the more observing the answer is plain. To all it is plainer than it was a few years ago. But possibly we may get an idea from a few minutes' discussion.

Helps Keep the Boy at Home.

The cities recognize the drawing power and the absolute necessity of trees in their parks. The beauty spots have a drawing power for all. The farmer's son visits the city and becomes fascinated with its life and the value put upon things beautiful. It appeals to him. The farm home too often has a barren waste about it. There are other features which draw the boy from the farm, but if farm communities join in creating beautiful surroundings, in fostering a spirit of rivalry between each other, and in vieing in producing more attractive roadways and home grounds, I believe a great factor will be added in keeping the boy at home.

"Is that a commercial factor to the farmer?" Ask the orchard or vineyard owner who, for want of help, has been compelled to contract with the wily Jap to secure the gathering of his crops.

Effect on Tourist.

Again. Imagine an Easterner, a tourist homeseeker, looking over the State—from a car window as usual—going north through the San Joaquin valley. He strikes Bakersfield on a warm summer morning about eight o'clock. Nearly all day he rides in that one valley. Here and there occasionally an orchard, but scarcely a large tree visible from the car window. The mountains to the right show in the dim distance an occasional cap of snow. To the left the Coast range is so low on the horizon as to be almost invisible. The great expanse is in many places almost as unbroken as the surface of the sea.

The appearance of a eucalyptus grove or a solitary tree wins his eye almost as quicklly as a passing ship in mid-ocean. He is ignorant, perhaps, of the great wealth-producing power in that section of the raisin, the peach or alfalfa or the dairy. Or that over against the hills are productive orange groves. Before these facts can be impressed upon him he becomes unconsciously prejudiced against the section through which he is passing, and one who would have been a strong factor in the upbuilding of California may go home to influence others against our State.

California with its brown fields—brown the greater part of the year at least—demands more attention as to the breaking up of the landscape, especially in the larger valleys, with trees, so far as possible.

Let Each Do His Share.

If each homemaker would realize this, and instead of planting fruit trees clear to the foundation of his house, with vineyard perhaps in his front yard, and in their stead plant here and there a large growing forest tree, which, as a rule, is far less subject to pests and diseases than the fruit tree, he would surely add greatly to the natural beauty of his neighborhood, and by that means attract to it a class of people believing, as he does, in having things beautiful surrounding them, all of which creates a greater demand in others for that same property. This, in time, begets greater care in orchards and vineyards, which in turn brings greater wealth. Like begets like so that greater care and attention to or-

Continued on Page 138.

ALL ABOUT THE

Orange and Lemon

Is told in our new book on Citrus Culture, embracing every phase of the subject from the seedling bud to the final disposition of the fruit in the Eastern market. The largest and best book on the subject ever printed — 50,000 words, 100 illustrations. You will want a copy, which we will send you for the small sum of 25 cents. Remember we are the largest growers of orange and lemon trees in the world.

The San Dimas Citrus Nurseries
R. M. Teague, Prep., San Dimas, Cal.

Orange Seed Bed Stock

Both sweet and sour, the very best. Orders booked now for delivery Spring of 1908.

Southland Nurseries R. F. D. No. 1 PASADENA, CAL.
F. H. DISBROW, Proprietor Both Phones

SOUTH BEND ORCHARD CULTIVATOR

Acknowledged the best, 5 feet wide. Spring teeth if wanted. Horizontal lift. No neck weight.
AGENTS WANTED
Steel and malleable iron. Dust proof wheels.
ARNOTT & COMPANY, Los Angeles, Cal.
Write for Catalog. 112-118 S. Los Angeles St.

When writing advertisers, mention Cultivator.

Principal and Interest

Anxiety to obtain large interest should never be allowed to interfere with the ultimate safety of your principal.

We are offering investors a plan whereby they can if they choose become owners of a high-grade issue of Bonds on payments. These Bonds combine for your advantage the maximum of safety for your principal and an interest return of 6 per cent.

Send for a copy of Current Investments, which gives complete details.

The John M. C. Marble Co.

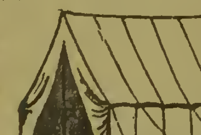
Main Corridor,
H. W. Hellman Building.
Telephones A6897
Main 592.

Citrus Trees

For Season 1908

Valencia, Eureka Lemons, Thompson and Washington Navels, Grape Fruit

C. L. McFarland & Co.
Riverside, Cal.



TENTS

Fumigating and Lemon Curing Tents our Specialties

Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants
300 slightly used tents, all sizes, for sale cheap.

Mellus Bros. & Co Phones—Home, F 4871; S. S., Main 3500
250 East Fifth St., Los Angeles, Cal.

Fertilize with

Nitrate of Soda

May be purchased in large or small lots from

R. A. HOLCOMBE & CO.
50 Clay Street, San Francisco, Cal.

Of Course You Are Interested in Gas Engines

You would like to know how they are constructed, how to take care of them. You can't afford to be without our booklet, "THE GAS ENGINE AND HOW TO CARE FOR IT." Write for it and save yourself money. (Send five cents in stamps.)

Federal Gas Engine Co.
704 Union Trust Bldg. Los Angeles, California

With the Citrus Growers

STEALING ORANGES.

THAT orange grove owners are exasperated by the continual stealing of fruit by hobos, Jap workers, also by well-to-do and upright Eastern tourists, is well known. That the first two above mentioned classes should swipe fruit, causes no discussion, but the tourist who "just picked a few with his own hands so he could tell it back East" is increasing the losses to fruit growers till they are becoming desperate.

A few years since this became so general that one farmer in watching his grove with his shot gun finally killed a Jap in the act of stealing his fruit. Those Pomona growers are now taking up the fight in a more legal way and post the following notice on their places:

> WARNING.
>
> A liberal reward will be paid for the arrest and conviction of any person stealing fruit from this orchard.
>
> San Antonio Fruit Exchange.

P. J. Dreher, secretary of San Antonio Fruit Exchange, also sends to members the following instructions:

After careful inquiry and consulting with the peace officers, I now desire to give directions as to the manner of procedure necessary to fully carry out the desire of the stockholders to secure the arrest and conviction of persons stealing fruit from your premises.

The arrest can be made by any peace officer when he finds the person in the act of stealing the fruit, but in cases where the officer himself does not see the person stealing the fruit, he must have a warrant for the arrest of the offender.

Any owner of the premises or any person who is in charge of the premises and has authority to protect the same against thieves can, under the law, arrest any person found stealing fruit from such premises, and I therefore, advise each and every one of you to co-operate with your neighbors, giving such authority mutually as you deem proper and necessary for your protection, and that each of you who finds any person stealing fruit from the premises under your charge you should at once, yourself, arrest the person or persons, take them to the nearest deputy constable, turn them over to such officer, stating that the person was caught stealing fruit from your premises; said officer will then take charge of the offender and take him to the nearest justice of the peace, to which place you must accompany the party to swear out the warrant and testify in the case.

If there are more than one person in the party, any of them receiving fruit from the person stealing the same are equally liable, so that in case you should find such to be the case and such person or persons accompanying the party stealing to have possession of such fruit, you will arrest all them aud make the complaint against each and every one.

I would advise that the list of officers and their 'phone numbers be posted near your 'phone at the residence and in each and every case where you make an arrest get some one of your family to 'phone to the packing house of your association and ask that the deputy constable at such point come immediately to your place and take charge of the offenders that are under your guard and thus expedite the business and save you the trouble of detouring with such a party to your packing house. The persons appointed as deputies are employed by the exchange and will, immediately upon receiving notice, come to your aid.

I think the members of this organization should use the utmost efforts to see that all guilty persons are arrested and brought to justice, and would caution you to be careful in attempting the arrest of automobile parties, as such might induce you to get into their machine for the purpose of taking you to the justice, but might carry you beyond the confines of the local authorities.

In arresting parties, it is necessary for you to say that you place them under arrest for stealing fruit from the premises of which you are the owner, or of which you have the charge, and demand that they accompany you to the nearest justice of the peace for the purpose of meeting the charge.

* * *

As doubtless the greatest loss comes from tourists and automobile parties, we think a proper suggestion which might help to lessen such evil, is for some growers to devote a tree or a few trees by which a sign something like this might be placed:

> ORANGES FOR SALE.
>
> Oranges from this tree for sale at 40 cents per dozen. Your choice, pick them yourself. Get permit at residence. Any one trespassing on these premises without permit will be promptly arrested.
>
> —OWNER.

Those not owning an orchard on a main road where automobile parties pass continually or real estate wagons drive with possible purchasers, have no idea of the awful inroads made on fruit by such parties. Such parties have no idea of being common petty thieves and often take fruit in the face of the owner but a few rods away. A sign like the above, of frui for sale, would show to them that it is not there for the purpose of being lugged off without price.

GUM DISEASE.

By losing one line out of one item on this page last week, Commissioner Pease was made to say just the reverse of what he wished to say. The article should have read as follows:

The line left out is now in paren thesis:

So much has been reported of gum disease of citrus trees in one or othe of its forms, that I quote from an article on that subject in Bulletin No 8 of the Florida Experiment Station entitled: "The Principal Diseases o Citrus Trees in Florida." "Sweet seedling orange trees are particularly susceptible to Gummosis and (sweet orange stock used for budding on is als liable to this disease. The sour) orange used as stock for budding remains free from attacks, and in Florida its use for this purpose is almos a sure preventive of this disease."

There appears to be quite a deman here for sour stock on this account Hence, speaking from our standpoint those wishing sour stock should procure the seed and raise their stock a home, as we do not admit such stoc from any locality that is infested wit pests not already here.

TRIFOLIATA.

Trifoliata is a native wild orang of Japan, having stout, stubb thorns and beautiful green trifoliat leaves. The wood is much toughe than the common orange and the tre grows more compact and symmetri cal. When planted in open groun with unrestricted root system, it i the strongest growing tree of any c the citrus family; it is also a decidi ous member of the citrus family. I goes dormant in fall, same as the a ple or any other deciduous tree, shec ding its leaves and remaining in doı mant condition until late in th spring, when it then starts off readil and makes a continuous, vigoro growth during the entire summe the fruit is inedible, being nothi more than a mass of seeds with pulp, having a decided resino flavor. The fruit is perfectly roun being one-third the size of o Washington navel.

REMEDIES FOR MEALY BUGS.

In the year 1902 I took charge of 30-acre plantation of pineapples a the pines were bearing, but in the fa all looked sick and were dying o so I sent to the Experiment Statio at Lake City some plants and the reported mealy bugs. I at once o dered 20 tons of tobacco dust for i secticide purposes, and in the ye 1904 I shipped the best crop of pin grown in the neighborhood, and your subscribers will apply 15 pounds per acre as soon as possibl of the best tobacco dust, I feel sati fied he will have no further troubl but in the future he should alwa include tobacco dust in every appl cation of fertilizer.—Florida Agricu turist.

DENATURED ALCOHOL.

The farmers, through whose influ-ce the denatured alcohol act was ssed, have been a good deal disap-inted in that they have seen no imediate results in the way of the tablisning of farm distilleries. e value of this law to the farmers nerally must necessarily be in-rect, resulting in the cheapening of cohol for manufacturing purposes, us developing a large number of nall factories in the smaller towns, id greatly cheapening in time a rge number of articles in common There has been a growing senti-se in the manufacture of which eap alcohol is essential.

'he interpretation of the law by e revenue officials precluded the es-blishment of the small denaturing stilleries. A more liberal interpre-tion was made in July last, under hich a farmer or association of rmers can establish a distillery for e conversion of farm products into natured alcohol.

The revenue officials recommend hat they call a co-operative neigh-rhood distillery, centrally located id patronized by the farmers of the eighborhood, in sections where corn cheap or where there is an amount farm products rich in carbon, such unmarketable potatoes. They be-eve that a distellery of this kind ould be put up for $1000 or $1500, hich would have a capacity of 100 200 gallons per day.

An individual farmer might put up plan for $100 or upwards, but he ould not make very much alcohol. nder the new regulations plants aving a capacity of less than fifty allons in twenty-four hours need no ispection, nor do those having a ca-acity of more than fifty and less ian one hundred gallons, if the reve-ue officers are perfectly satisfied ia the interests of the government ill be taken care of. Larger distil-ries require an inspector.

The new regulations, which went ito effect September 1, and a copy f which can be procured by applica-ion to the Department of Internal evenue, Washington, D. C., are iuch more liberal than those here-ofore in vogue.

We do not expect the establishment f any great number of co-operative istilleries except in locations where here is a large amount of ferment-ble farm products for which there is o cash market. We do not expect hat in time farmers will grow pota-oes largely for the supply of co-op-rative denatured alcohol distilleries. hese potatoes will be grown as they re in Germany, not for the shape or he color of the skin, or smoothness, r the character of the eye, but sim-ly for the production of starch, omething like the old "Paddy's lub" grown in our boyhood, of which man could grow three hundred ushels per acre quite as easily as he an grow one hundred of the market-ble and more tender varities in use iow.

In short, the denatured alcohol act as done all that we expected for the ime it has been in operation, and e believe it will result in the estab-hment of small manufactories in ns and smaller cities, where it ould not be done with taxed alcohol; ht it will in time largely take the lace of gasoline for light motive ower for automobiles, gasoline en-ines and possibly for light in farm omes.—Wallace's Farmer.

A single fir tree cut near Raymond, Vash,. a few days ago, yielded three ogs which scaled nearly 45,000 feet, he market value of the lumber there-rom being $425. At this rate some f the quarter sections of timber land vhich have been selling as high as 50 per acre do not appear to have rought exorbitant prices.—Portland)regonian.

The exports of wheat from the hree great wheat exporting coun-ries of the world.—United States, Argentina and Russia—for the cereal year recently completed, extending from September, 1906, to August, 1907, inclusive, were as follows: United States, 107,648,000 bushels; Argentina, 104,248,000 bushels; Rus-sia, 95,112,000 bushels.

Three-quarters of a million dozen bunches of celery were shipped East during the month of December.

HURST SPRAYERS ON FREE TRIAL

NO-MONEY-IN-ADVANCE. PAY AFTER IT HAS PAID FOR ITSELF.

LET US SEND YOU ANY OF THESE SPRAYERS—to try for 10 days, then if you buy, you can pay us cash or we'll wait till you sell your crop, then you can pay us out of the extra profit. *We pay freight. Wholesale price (where no Agt.)*

Fitz-All Barrel Sprayer

Fitz any Barrel or Tank. High pressure. Perfect agitation, and easy to operate. Brass Ball Valves, plunger, strainer, etc. Automatic strainer cleaner. No cup leathers or rubber packing to be eaten out by the chemicals. Packed like an engine cylinder. Furnished plain, mounted on barrel or on wheels as shown.—Handiest rig ont. GUARANTEED 5 YEARS, and it don't cost you a cent to try it in your orchard. Get one FREE. Remember there are "no strings" to onr free offer. Read below.

Man-Power Potato & Orchard Sprayer

Sprays everything: Potatoes or Truck 4 rows at a time.—Also first-class tree sprayer. Doubles your-crop.—Don't let Blight, Scab, Rot and Bugs cut your crops in half. High pressure from big wheel gives vapor spray. Spray arms adjust to any-width-or-height of row. Hollow steel frame, light, strong and durable. Brass Ball Valves, Cylinder, Strainer, etc. Perfect agitation. 5 YEAR WARRANTY. Pushes easy as is well balanced. Needn't send a cent to get it "on trial." You can get one free if you are first in yonr locality. (See below.) Send coupon or write NOW. Don't wait. Some one will get ahead of you.

Horse-Power Potato & Orchard Sprayer

Most powerful machine made. 60 and 100 gallon tank for one or two horses. Steel axle, one-piece angle iron frame, cypress wood tank with adjustable round iron hoops. Metal Wheels. Spray arms can be adjusted to suit width or height of row. Nozzles adjusted to the row by the feet of the operator as the machine moves along. Brass Ball Valves, Plunger, Strainer, etc. Large air chamber. Big double acting pump gives vapor spray. Runs easy. 5 YEAR GUARANTEE. Try this machine with yonr money in your pocket. Read Free offer below.

FREE—Get a sprayer FREE.—After you have tried the sprayer and are satisfied that it is just as we recommend it, send ns a list of the names of yonr Neighbors and we will write them and quote them price and have them call and see your Machine Work and for every "FITZ-ALL" Sprayer we sell from your list we will credit yon with $2.00 or send you check if yon have paid cash.

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We do all corresponding and selling. All you need do is show the sprayer. Many have paid for their sprayers in this way. This offer is good for only the first order in each locality. Don't delay. Send the conpon or a postcard now.

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Every melon picked in best season, and carefully selected. One pound, sealed packages, $2.00; one-fourth pound, 60c.

A very fine strain of this melon, 90c per pound.

WATER MELON—Chilian—(The most perfect melon on earth).

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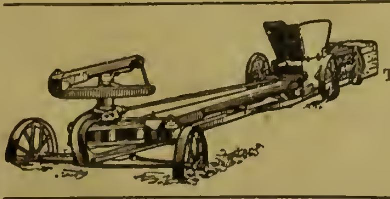

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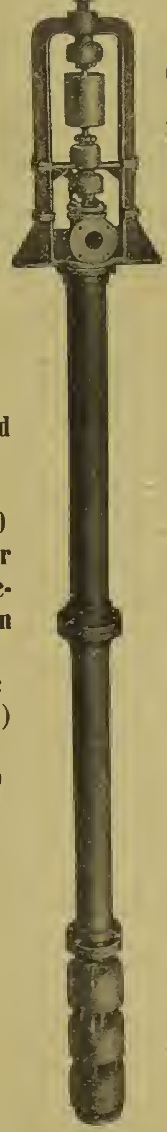

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A Deep Well Pump that has no VALVES or PLUNGERS to wear out and are fast, taking the place of VERTICAL STEAM PUMPS, Deep Well Plungers and Propeller Pumps

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Records and Snpplies, delivered at your nearest railroad station upon receipt of full retail price. Write for particulars and ask for catalogue. Peter Bacigalupi & Sons, 1113-15 Fillmore St. San Francisco

Live Stock and Dairy

MILK.

MILK is a complete food by itself, and yet how often do we add it as a beverage to an already full meal. It is in one of the most available forms and is easy of digestion. It is extremely soluble and readily taken into the system, The fat of over-rich milks are sometimes too heavy for invalids and babies to take easily. In other words, a three to 3.8 per cent milk is best balanced for the adult stomach. A three per cent milk is perfect for a growing child. Butter fat is the easiest of all fats on the stomach, when used as sweet cream, is excellent as a builder up of body fats, better than the vile cod liver oil for consumptives. The fat is held in the milk in minute globules, and gives the stomach no work to break them up into an emulsion. The greater value of butter fat over the fats of beef and mutton is in this condition. The melting point of butter fat is that of the human stomach, while that of other animal fats are much higher, The animal fats are used in oleomargarine, rendering it less easy of digestion by the human stomach.

Fat.

The fat of milk, cream and butter forms an emulsion that floats along into the intestines and is there picked up and carried into the blood to the lungs for oxygenation. The intestinal absorption of milk is the reason that bad milk brings on bowel troubles in children, and may readily infect them with a generalized tubercular troubles. In the infant this dread disease is rarely found to be centered in the lungs. Milk, also, is the carrier of typhoid fever and diptheria, when it has come in contact with these pathogenic germs through carelessness in handling. The present hue and cry after the dairyman for clean products is founded on the fact that many helpless infants depends on milk for sustenance. I really believe that milk is, today, handled with more care than any other class of food, while it is in the hands of the producer. The fact that milk is the best of cultural mediums for many bacteria forms of growths leads to its contamination very rapidly. Meat is not subject to the bacteria growths, for as soon as it is cold this action stops. Yet, while the animal heat is passing out of it it is the most sensitive time. The control of the filth of the slaughter house lessens the chance of disease from this source.

Take a Look!

Did you ever sit for a few hours around a railroad station and see the ice put into the drinking water on the trains? It is handled with dirty hands by men in greasy clothes, hauled in a dirty iron wheelbarrow, and is often thrown on the ground by the tracks where the dogs and human feet have walked. Then picked up and tossed into the water coolers. Once or twice I have seen it washed by the hose before being put into the coolers. Only once or twice in a good many years. Pullman and tourist and day coaches are all served alike in this matter. In the ordinary hotel and restaurant have you ever sat where you could see the waiters pick up the pieces of butter with their fingers and dab it on the butter plates? Have you ever noticed the waiter wipe the sweat from his brow on the cloth he used the next minute to polish the knife and forks he handed so deftly to you? I could go on and show you a thousand more instances like these, but this is surely enough to point the remark that the average dairyman today is furnishing cleaner milk than the average people that handle food stuffs. While we would not lessen the dairyman's care. No! not for one instant, but can we not raise the cry that will take these things up and make them clean as well?

Consumptives.

This unfortunate class are ever with us in California. We are the Mecca of their travels. In the cities have you noticed how they stand on the curbing and spit into the streets and into the gutters? Fortunately, the scientist has decided that the dried sputum is not as dangerous as we formerly believed. Yet it is not a cheerful sight to see the open fruit stands and the venders' carts standing along side of the curbs where the dust from these same gutters is sifted by ever wind. The milkman has, so far, borne the blame of being the purveyer of tainted food; certainly the dairy that presents the sanitary conditions of many of the back yard of the smaller cities with rubbish, cats, dogs and chickens, is not today in existence.

Character of Milk.

Freshlly drawn milk is silghtly alkaline, and usually sterile from all bacteria taints. It hardly reaches the pail before bacterial growths begin. The warm, mucous membranes lining the teats is alive with bacteria. They are swept into the pail with the first gush of milk. In running a sanitary dairy, the milkers draw these first squirts of milk into an open pail before beginning to use the covered pails. This first milk is poor in quality and is given to the calves. In freshly drawn milk the work of fermentation starts at once, lactic acid is formed and the sugar, then the casien, and lastly the fats are reduced. The old idea that milk was pure if it was freshly drawn from the cow has faded away. The time was when unwatered, unskimmed milk without preservatives or coloring matter, was all that was asked by the consumer. The milk had to be sweet and have no bad odor, and every one was satisfied. Now it must be free from bacteria, or at least, the count must be kept down low. To make this possible, the cow must be kept clean, and her surroundings and food must be sweet. The milk must be handled in a perfectly sterile manner from the time

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

HELP THE COWS
Even the **best** cows can't make big profits for the dairyman who **persists** in using pans or crocks or a poor skimming separator. Cream is **cash**, and if yours is just an "average" herd, then how much more necessary to skim out **every** drop! Why not **help** the cows boost **your profits** by skimming their milk with a reliable
UNITED STATES SEPARATOR

SKIMS OUT ALL THE CREAM
HOLDS WORLD'S RECORD

A cream separator is an acknowledged **necessity** to profitable dairying, but before you buy why not look very **carefully** into the matter and buy the **best** one at the **start?** It's **cheapest** in the long run. We'll gladly send you, FREE, an illustrated book, telling what a separator **can** and **ought** to do. Please write us today "Send your book No. 20."
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California Customers from San Francisco warehouse. No delays. Address all letters to Bellows Falls, Vt.

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High Grade Stock of Best Strains.
Young Stock For Sale
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The Louse Question
When your animals rub incessantly at this season of the year, look out for lice. This is especially true of calves and colts. To meet this condition Dr. Hess (M.D., D.V.S.) formulated the famous Instant Louse Killer, which kills lice on stock and poultry.
INSTANT LOUSE KILLER
kills ticks on sheep. It, being a powder, can be applied in zero weather. Do not wait for warm weather; do not let the tick eat up your profits; kill him on the spot with Instant Louse Killer. Put up in round cans with perforated top, full pound 25 cts.
Sold on a positive written guarantee. Be sure of the word "Instant" on the can; there are 25 imitators.
1 lb. 35c. 3 lbs. 85c.
If your dealer cannot supply you we will forward 1 lb. by mail or express, prepaid, for 35 cents.
Manufactured by
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Ashland, Ohio.
THE PETALUMA INCUBATOR CO.,
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Frank A. Meacham, Proprietor.
Importer and breeder of RED POLLE CATTLE, SHROPSHIRE SHEEP, RAM BOUILLET SHEEP, HORNLES AMERICAN MERINO SHEEP. Bot sexes for sale. Take electric car at Pet aluma or Santa Rosa for LIVE OAK STATION. Address all mail to
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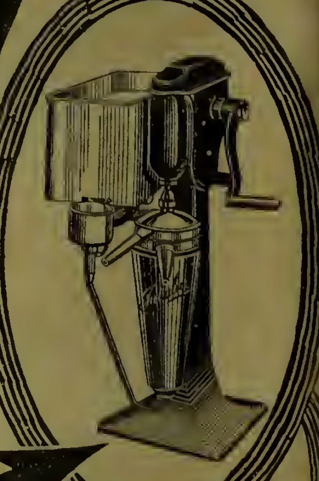
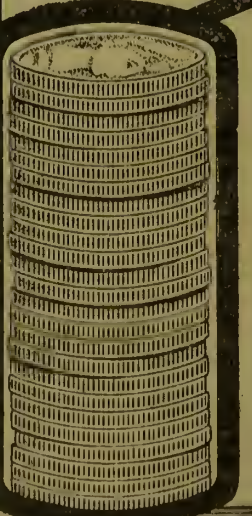
CREAM PROFITS



If you are selling your whole milk to the Creamery you are not getting as much profit from your cows as you should. In fact you are losing 50 per cent. Without increasing your feed bills one penny or milking another cow you can double your cream profits. This is demonstrated by thousands of dairymen and farmers every day in the year.
The Sharples Tubular Separator
gets all the cream in the milk—it skims out every cent of profit, so that you can turn it into cash. Here's one letter that tells the story of how to double your cream profits:

Union Mills, Ind.
GENTLEMEN:—We have a Sharples Tubular. Before we bought it, we had been selling our milk to a creamery at Union Mills, getting not more than $8.00 a month, but since we have the Tubular, we have been getting twice more, and are so satisfied with the Tubular.
MRS. JOHN C. MILLER

Such proof as this ought to convince you that a "**Tubular**" will be a money-maker for you. The extra profit will soon pay for the separator while it will keep right on earning these big profits for years. Write today for our new catalog and **free** copy of that valuable book, "**Business Dairying.**" Ask for book No. 260.
THE SHARPLES SEPARATOR CO.,
West Chester, Pa. Toronto, Can. Chicago, Ill.



of drawing until it leaves the dairyman's hands. Further than that he, of course, cannot control it and it must be left to the woman that rules the home to see that it reaches the family table in perfect condition.—M. E. Sherman.

WHEN AND HOW TO DIP GOATS.

Having read several inquiries about dipping goats, the best kind to use, and the time to dip, I will give you my experience, says W. A. Ayres, in Oregon Agriculturist. I have dipped from 300 to 500 goats every fall for the last five or six years.

The Time To Dip.

October is the best month, but dip anyway. I have dipped as late as January with good results, but it takes more dip as the fleece is long, but dip, no matter what month. Select a sunny day as they dry too slowly if cloudy or damp.

What To Use.

Have a vat or tank, say six feet long at the top and three feet long at the bottom; 18 inches wide at the top, and eight or ten inches wide at the bottom, as a straight up and down tank has too much dip where it is not needed, namely at their feet. Fix a draining pen with a bottom that will drain all surplus dip back into the vat or tank. This is to put goats in after dipping. The vat must be full enough to dip not to let the feet touch the bottom.

How to Dip.

Catch the goat and put it all under except the head. Two can do this better than one. Hold each goat in the solution for one minute by the watch, and don't guess at the time. After the goat has been in the tank fifty seconds hold it with the right hand and grasp its nose with the left hand in such a manner that it cannot breathe or swallow. This can be done in two ways. Then put the goat's head under the dip and hold it there the last ten seconds of the minute. This is done to kill the lice and nits on the head. Then put in draining pen.

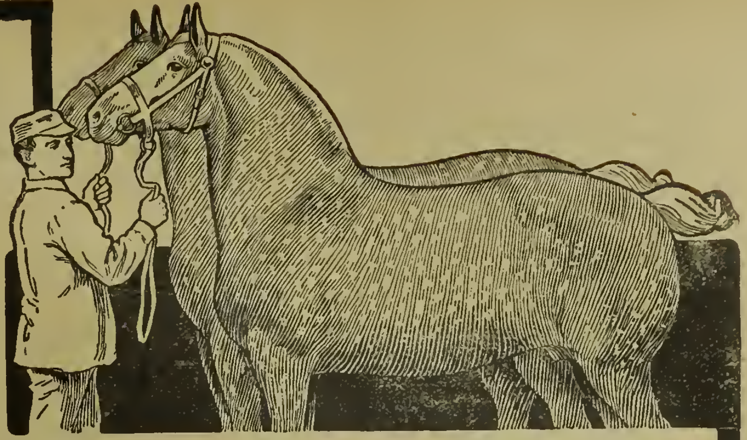
Kind of Dip.

I use a poisonous dip as I have not been able to find a non-poisonous dip that will kill nits without dipping twice, which takes too much time. Most persons are afraid to use a poisonous dip. Well, don't drain the goats in the hay mow or on grass that stock is liable to eat and there is no danger. I use a dip of my own make which I find is very effective and does not cost much, prepared as follows: One pound of arsenic, two pounds of sulphur, three pounds of air-slaked lime, one 25-cent package of Dew Drop or Gold Dust washing powder. Mix with three or four gallons of hot water until thoroughly dissolved. Then add water to make 100 gallons in all. Have the chill taken off the water. Some think it is no use to dip this fall if they find no lice. They will find plenty before spring if they don't dip. I dip in the fall, lice or no lice, and again in the spring if I find any lice at shearing time. In the spring I wait until done kidding then dip, kids and all, as the lice will leave the old goats and go onto the kids after shearing. But dip once a year, lice or no lice.

The Government Year Book in a series of articles on "Opportunities for Dairying" says: "Opportunities for dairying are found everywhere in the United States. The different sections of the country have characteristic peculiarities, but all need milk and its products. Success awaits the dairyman who fits his work to the conditions of the place in which he lives. He should know the value of a good dairy cow and how to treat her. He should recognize the necessity of cleanliness from the time the milk leaves the udder until the furnished product is in the hands of the consumer. He should know and meet the needs of his market.

The long delayed irrigation water to District 8, Imperial valley, is now promised for February 15th.

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.



What Horses Need

Conditioning horses for market requires *skill* in feeding. The stomach of the horse is not suited to the consumption of as much rough fodder as is that of the ox. The ration for the horse then, must be more concentrated—largely grains. But food itself is not more important than is a proper *distribution of food* after it's eaten. Thus *digestion* becomes the function to which we look for all satisfactory growth and fattening. Now long-continued heavy feeding may bring stomach derangement, dropsical swellings or even colic. Hence the horse needs a tonic to assist and perfect the digestive process.

DR HESS STOCK FOOD A TONIC

The prescription of Dr. Hess (M.D.,D.V.S.) possesses remarkable tonic properties for either horses, cattle, hogs or sheep. It assists digestion, thus making a greater amount of food available for building bone and muscle or for forming milk and fat. Besides it increases the appetite for roughage. Chemical analysis shows that there is less nutrition lost in the manure when Dr. Hess Stock Food is fed, which *proves* that more of the food is digested. The ingredients contained in Dr. Hess Stock Food are recommended by the ablest medical writers for improving digestion, purifying the blood, expelling waste material from the system and regulating the bowels.

Sold on a Written Guarantee

100 lbs. $7.00; 25 lb. pail $2.00

Smaller qnantities at a slight advance.

Where Dr. Hess Stock Food differs in particular is in the dose—it's small and fed but twice a day, which proves it has the most digestive strength to the pound. Our Government recognizes Dr. Hess Stock Food as a medicinal compound, and this paper is back of the guarantee.

Free from the 1st to 10th of each month—Dr. Hess (M.D., D.V.S.) will prescribe for your ailing animals. Yon can have his 96-page Veterinary Book free any time for the asking. Mention this paper.

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Also Manufacturers of Dr. Hess Poultry Pan-a-ce-a and Instant Louse Killer.

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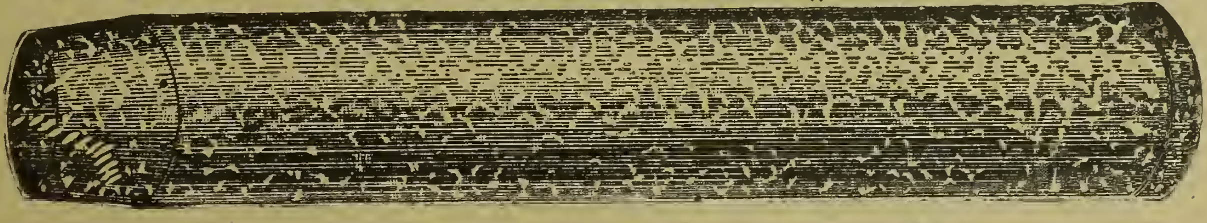

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The **only** way to **Irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties.** We make **Riveted Water Pipe** in lengths of **ten feet** from **single sheets.** Let us **prove** to you that we make **Pipe** and **Tanks right.** WRITE FOR CATALOGUE.

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DON'T BUY GASOLINE ENGINES UNTIL YOU INVESTIGATE "THE MASTER WORKMAN," a two-cylinder gasoline, kerosene or alcohol engine, superior to any one-cylinder engine; revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durability. Costs Less to Buy—Less to Run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or traction engine. SEND FOR CATALOGUE. **THE TEMPLE PUMP CO., Mfrs., Meagher and 15th Sts., Chicago.** THIS IS OUR FIFTY-FIFTH YEAR.

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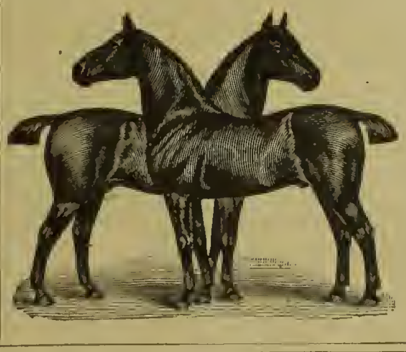

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The Best Tonic on Earth

Put up by 1-lb. Package, 25 cents

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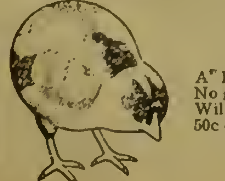

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A Balanced ration made of pure grains (cracked), Seeds, Beef Scrap Charcoal. No grit no waste or bowel trouble in feeding this feed. Will send freight prepaid to any address for $3.50 per 100 lbs. Arizona points 50c extra.

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Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

Poland Chinas For Sale

18 head of Thoroughbred Poland Chinas of both sexes, some of them weigh 150 pounds. W. R. McCaslin, R.F.D., Oak Park, Sac. Co., Cal. Roosevelt Ave

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Orange County Nurseries
Established 1889

Grower and Dealer in Citrus and Deciduous Trees of all standard varieties

Soft Shell Walnut Trees, 1, 2 and 3 years old. Grafted Placentia on Native Black Walnut Root. Street and Ornamental Trees, Palms, Dracaenas, Blue, Red and Sugar Gums (large stock.) Write for prices.

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Thousands of dollars saved by farmers by patronizing us. 50,000 Lob Ingir Smyrna Fig trees, 4 to 6 ft. in lots of 100 at $12.50; 500 and up at $100.00 per 1000.

We won the Gold Medal at the Lewis & Clark Exposition. This is the world famed Fig of commerce.

We have a large stock of Bartlett Pears, Royal Apricots, Orange and Lemon trees, as well as other nursery stock.

Bed rock prices. Send in list of wants. Address

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Full line of ***Commercial Varieties.*** Life is too short to experiment with novelties. This is why we confine ourselves to Money Making Commercial Sorts. All leading sorts of

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Get our prices before buying elsewhere. We have been pleasing our customers for 18 years. Large catalogue and Souvenir Picture showing largest tree in the world, mailed free upon application. Address

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Send for Price List

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Ready to ship at the following prices, express or mail prepaid by me.
I warrant everything true to name. Satisfaction guaranteed.

	Per 12	Per 100	Per 1000
Superlative Raspberry, 2 years old - - - -	$4.00	$30.00	——
Mammoth Blackberry, 6 months old - - -	.50	3.00	$25.00
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6 at 12 rates, 25 at 100 rates, 250 at 1,000 rates.

Gold Coin Potato, very early, new, per 100 lbs., $10.00
Eucalyptus Trees, Blue Gums, $40.00 per 1,000

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The finest grade of the leading kinds of Peaches, Apricots and Muscat Rooted Vines to be had.

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Deciduous Fruit Culture

PRUNING THE GRAPE.

PRUNING of grapes is now in order and in some sections is well under way. While the majority of varieties of grapes are pruned short, that is, with the canes cut back to two buds, many varieties so pruned may, without doubt, be pruned longer with proportionately better results provided enough additional plant food and water are available for the vines to draw on. There are some varieties that formerly were pruned short that are now pruned long or half long, in certain localities, with good results. No doubt, the Tokay will prove much more profitable in some places or under certain culture, if it were pruned long and trained on a trellis. We name this variety merely as an example. It may prove to be entirely wrong and ill results may follow, but there is plenty of room for experimentation along these lines. We are of the opinion that many varieties now grown under the system of short pruning may, when intelligently irrigated produce many more, and just as fine grapes, when pruned long.

Starting the Young Vines.

Young vines should be pruned when first planted with enough top to bring the apex 10 to 12 inches above the ground if there is top enough for this purpose. The vine should be tied to a short stake the first and second summer or so, that the trunk will remain straight. At the time of first pruning, it should be allowed to have at least two buds left from the last growth. These make the first forks and should be pruned the following season to two canes of two buds each. The following season, if the vine is a short pruner, these canes should be cut back to two buds each. This will make a head with four branches which, if properly cut from the beginning, will make a symmetrically formed crown. Should the variety be a half long pruner, one of the canes on one of the four arms should be left with about four buds and the balance cut back to two buds as before. The arm on which the half cane is left should also have a stub of two buds left at the base of the half long cane. The following year this plan of pruning may be followed upon the remaining branches, always leaving a stub at the base of each long cane. This stub with two buds furnishes two branches with which to repeat the operation, the long cane with its growth of canes being entirely removed each year. This plan is to be followed in long and half long pruning alike.

When the vines are to be run on a trellis, the long canes are tied to the wires and the growth from the stubs is allowed to grow at will when it will be given the place of the bearing branches at the next pruning time. Another method of training on the trellis is to train permanent branches along the wires and develop crowns at intervals along these branches, and prune each of these crowns as a short pruner.

According to Your Section.

The above direction for pruning a one and two-year-old grapevine, do not apply to the desert sections from Indio to Lower California. In this territory vines make a growth that renders the usual first and second pruning of young vines entirely out of place. When the vine, during the first summer, makes a crown that is as large and strong as a two or three-year-old vine when grown in other places, it is useless to cut it to a one-year-old standard. A twenty-months-old Malaga, for instance, is in size and form, ready to bear twenty to thirty pounds of grapes per vine. There is no need of preventing its doing so. Our advice in these locations, is to prune the vines according to their size and form, irrespective of the age. It is usual for a twenty-months-old Malaga on the desert to be as large and fine in shape as one three years old when grown on the coast or in the great valleys of Central California. In the desert regions, a twenty-months-ol vine will develop rough bark on the current summers' growth for a di- tance of two or three feet from the point on the cane where it started i the spring, with innumerabl branches strung all along the fu length. It would be folly to c away all this finely developed fram when it has all the strength an vigor that a vine of its size r quires. Such vines should be trea ed like bearing vines, as they reall are.—J. W. Mills.

PROF. WICKSON'S LETTER.

Since the ruling on the sulphu question has been suspended and California fruit growers are the winners, temporarily, at least, it may not be necessary to persist in stating "our side" of the question so persistently, yet a nail once driven in holds better if well clinched. The following letter by Prof. Wickson is a clincher, so we give it in full:

My dear President Wheeler: This morning's papers have telegrams stating that Dr. Wiley advocated be fore a congressional committee dipping fruit in a salt solution instead of sulphuring, and showed dried apples, not as light colored, but light enough, and he proposed to have salt used instead of sulphur. On this point I desire to state:

That the recourse to salt solution was suggested and experimented with in California about fifteen years ago and pronounced unsatisfactory for several reasons.

While salt does prevent oxidation and discoloration to a certain extent, it does not produce the light shades the trade demands. While it may be strongly claimed that in the case of dried apples a light brown may be better than a pallid white, producers cannot afford to undertake to reform purchasers' tastes. Producers must please purchasers in aesthetic points or abandon their production.

Though for apples and possibly for pears, where both are cut in rings or small sections, the salt dip may be found practicable from a producing point of view, the salt dip will not do at all for peaches, nectarines, apricots or for apples and pears cut in halves, because the dip in salt water retards subsequent evaporation instead of advancing it as the sulphur treatment does. The result is that this large cut fruit becomes very dark by prolonged exposure in drying and is apt to ferment in the center of the large pieces before the juice is made dense enough by loss of water to preclude fermentation. In this way the proposed salt water dip either perverts or prevents the characteristic California methods of curing fruit in large pieces to preserve as far as possible the natural form.

A liquid dip is objectionable, because of its tendency to become abominably dirty by frequent use for it concentrates dust and other impurities as it is progressively used and becomes soon a method of befouling freshly cut surfaces instead of a cleansing agency.

The suggestion that this could be avoided by constant renewing the di with fresh salt and water should b considered in connection with th cost of providing a large water supply in connection with dryin grounds, which cover acres of lan even in the case of individual pro ducers, and the cost of handling t fruit through a water dipping pro cess. For these reasons, in additio to the fact that the brine dip does not produce the results desired, the recourse to water dipping is impracticable.

If it should be urged that a liquid dip is now largely used for prun and capacious machinery has bee devised to render it practicable and economical, the reply would be that prunes are treated as a whole frui and the pulp is protected by an un broken skin. For this reason th pulp is not affected by a dip as freshly cut peaches, apricots, etc., etc. N analogy can be drawn between th handling of fruits which are cured i natural form and those which are cu into sections.

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CODLING MOTH IN PAJARO VALLEY.

W. H. Volck, horticultural commissioner of Santa Cruz county, reports on the codling moth. The year's work has demonstrated the advantage of a local laboratory and experiment station. He says:

"In order to combat the apple worm in this locality, it was found necessary to prepare a special spraying material that would not injure the trees. As soon as it was learned that the foggy summer climate of the Pajaro valley made the use of Paris green and other known remedies for the codlin moth dangerous, practically the whole time was devoted to the discovery of a suitable remedy. With this end in view a large number of different chemicals were prepared and tried with varying degrees of success. Arsenate of lead proved to be the most promising material, and a very careful study was made of this compound with regard to its properties and methods of manufacture.

"The results of these studies are: First, an arsenate of lead has been discovered which controls the worms and yet is perfectlly harmless to the trees; second, a method of manufacture has been invented by which this arsenate can be more cheaply prepared than any other. In the study of arsenate of lead I have been greatly assisted by E. E. Luther, who worked with me during the summer of 1906. Later, Mr. Luther took up the commercial development of the formulas worked out in the laboratory with the result that a thoroughly satisfactory arsenate of lead was placed on the market at 12 cents a pound, which is three cents a pound cheaper than it could be obtained from Eastern manufacturers. This reduction in the price of arsenate of lead will in itself save the orchardists of the two counties more than the cost of the office of the county entomologist each year. More recently the price of lime-sulphur solution has been reduced in a similar way. The work done here on arsenate of lead and the codlin moth has attracted the attention of entomologists not only in the United States, but from foreign countries, and we have entertained a number of specialists who have come here largely to look into the matter. The most gratifying result, however, is the very general feeling among the orchardists that the codlin moth can be controlled, and the way these ideas are being put into practice, is shown by the demand for spraying outfits and materials."

The time is now here for selecting and ordering trees for orchard planting and a practical hint or two may be in season at this time. A new orchard should be planted with well-tested and approved varieties. It is best to select such as have done well in the neighborhood and plant very few by way of experiment of new, lauded and untried sorts, most of which will eventually prove of little value. Choose young and thrifty trees instead of large ones. Young trees are dug with better roots, cost less freight on the railroad, are more easily set out and start sooner into vigorous growth than large trees with mutilated roots. Our experienced planters found long ago that quicker progress is made with young trees, and never order anything else. Growth is attained quickly under our favored conditions with irrigation as an advantage.

Two errors crept into these columns last week, each of which caused us some discontent, to put it mildly. One was a typographical blunder in the item referring to Prof. Wickson's criticism of Dr. Wiley's, wherein we were made to say Prof. Wickson scorns the position of Dr. Wiley that salt water may be used successfully, in place of sulphur, for curing dried fruits. The word scores was printed scorns which every person who knows Prof. Wickson knows is foreign to his nature in any criticism. The other error is where we are made to say the Cultivator has over 12,000 readers. We intended to say 25,000 and over. But such is life in the best regulated newspaper shops.

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IMPROVE THE WINTER EVENINGS.

We were reading recently, in Successful Farming, some timely suggestions on the improvement of winter evenings, which appeal to us and ought to appeal also to all farmers and their families. Of course winter evenings give us longer hours for rest and reading than those of any other season of the year. Successful Farming thinks there is no excuse for farmers or their families being ignorant of current news when there are so many well edited agricultural papers which, in these days, are gotten up with a view of presenting each week, or month, the best thoughts of the most practical agriculturists. This is true. Successful Farming might have added there never has been a time when such opportunities were presented for the entertainment of the farm family as there is today. With the rural free delivery, mail is brought to our doors daily; the telephone affords a means of social intercourse, and civic clubs give the opportunity to exchange opinions on all subjects of interest to the farming community. In reference to the entertainment of the young folk we quote what our exchange thinks about it:

"The young people, if they are to become satisfied with farm life, must be given something that will interest them, and sometimes amuse them. Give them something to do that will banish the thought of loneliness of farm life. Not only should young people be well educated, but often they need to be amused. The place for this amusement is in the farm home. Upon the fathers and mothers there rests a grave responsibility in providing for the young folks wholesome pleasure and instruction for the winter evenings. If this be done more will turn their faces toward the farm than away from it."

The Cultivator believes in the idea of giving the young people something pleasing to do. "All work and no play makes Jack a dull boy" is essentially true with farmers' children. And it is not only true of the boy and the girl, but it is true of the men and the women. We all need diversion, something to change the current of our thoughts daily, and we can obtain this through farmers' clubs, reading live papers, farmers' institutes, civic societies that take up living thoughts of leading thinkers devoted to new ideas for the benefit of the farm and home. As never before there is large opportunity to obtain farm literature, agricultural magazines, farm books, station bulletins, etc., that will be helpful in the better understanding of special lines of farming. The successful farmer is a student, although he may not realize it, but every time he endeavors to gain new ideas he is pushing in the right direction.

So we suggest to all readers of the Cultivator to improve these delightful long evenings as they pass; they will be all too few and followed soon by active, late and early grind which will give little opportunity for social or intellectual improvement.

DENATURED ALCOHOL.

Since investigation has been in progress with regard to the possibility of using denatured alcohol successfully for heating and lighting purposes, it has been made reasonably apparent that practical use may be made of the fluid for a number of domestic appliances.

In this connection there has recently been invented a number of different lamps in which it is used, and which it is asserted give reasonable satisfaction. These lamps, says an exchange, "are patterned very much after the usual house lamp, but have the advantage of the incandescent mantle, the same as found in use upon gas jets, thus furnishing a much better light, and one that can be taken about from place to place and no danger of explosion.

"There has recently also come upon the market flat-irons so constructed as to be heated and used like the electric iron, but it has the additional advantage that it may be carried about from place to place, and an electric current is not necessary for its use. It is claimed that a six-pound iron consumes four ounces of denatured alcohol in from one and one-half to two hours, and even at the very high prices now charged for this product, double what it should be, it is said that the average cost for running the iron would be about 2 cents per hour."

If it shall appear, after using these appliances, that they fill the bill perfectly, we may look for a very general use of them, for electric flat-irons are too expensive to use and gas is likewise too dear.

We shall not be surprised to see denatured alcohol brought into general consumption in the next two years, if experiments with it continue to give satisfaction.

RIVERSIDE GETS CONVENTION.

The Southern session of the State Fruit Growers' Convention has been granted to Riverside, and the program is in the making. It will be largely devoted to citrus discussions. At least one-half of the time will be along citrus lines. Commissioner Jeffrey has been in Riverside this week completing the arrangements, and has left a strong committee to care for local arrangements.

It will be a great convention, and as to attendance, it is proposed to make the largest ever.

Cattlemen are sanguine that the plant known as thornless cactus will revolutionize the cattle business in the arid and semi-arid districts of the country. As well known, thornless cactus is vastly different from the ordinary variety, being adapted as fodder and can be raised on cheap lands. It can be made to take the place of dry pasturage and cattle carried over on it when other feed is out of reach. Cattlemen in the central part of the State are jubilant over the prospect for a future cheap feed for their stock.

Our foreign credit is sustained mainly by our farmers. For eighteen years, beginning with 1890, the farmers have not failed to secure a favorable balance, the lowest being 1895—$193,000,000; and the grand aggregate of the balances of trade in farm products for the eighteen years is $6,500,000,000. At the same time our foreign trade in non-agricultural products for the same period has shown an aggregate adverse balance of $456,000,000.—Secretary Wilson.

The farmer's strength comes from his responsibility. No man to boss him; no one to do his thinking for him, he has to develop his own executive ability.

The work on the farm is hard for some men, because they lack a practical knowledge of the principles of mechanics, which would enable them to use pulleys and levers for much of the hard work. Without knowledge along many lines, the work is severe and irksome.

COMMERCIAL VALUE OF ORNAMENTAL TREES.

Continued from First Page.

namentals brings further demand of better care to the producing part of the ranch.

Beauty in Common Trees.

What to plant, how to plant, where to plant are important questions, but not within the realm of this talk. Only permit a hint. Don't strain after strange or unknown or expensive trees simply because they are such. The eucalypts have proven themselves wonderfully adapted to our State. On my own place I have planted an occasional Sequoia, live oak, maple or other slower growing trees. But the masses and general effects are made of eucalyptus, peppers and acacias. My children's children may point up to the Sequoia which I have planted, but while it is growing a few inches, or at best a very few feet, in my life time, the common eucalyptus will grow to be a monarch.

Don't let the idea prevail that the common things with which we are familiar about us may not possess great beauty.

If wealth permits the introduction of strange or new trees, let such service to the State be encouraged. But this appeal is for the lowliest of us to plant some trees in the home croft. Trees which will add to the attractiveness of our State, to our own comfort at noonday, and the night shall be filled with music,

"And the cares that infest the day
Shall fold their tents like Arabs,
And silently steal away."

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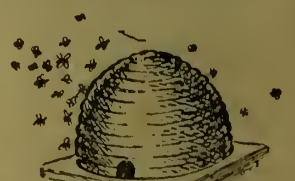

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Agricultural Notes of the Pacific Coast

Northern California

Vineyard pruning at College City is under full swing.

The continual rains in Colusa has been such that the roads have become almost impassable.

Orange trees at Oroville infected with the white fly are being given their second fumigation.

A mine owner above Colusa has been enjoined from dumping debris into the Feather and Bear rivers.

A shipment of plum trees received at Chico were destroyed because they were infested by the borer.

"Fifteen feet of water from Stockton to the sea" is the slogan of the Stockton Chamber of Commerce.

The first steamer of the season reached Red Bluff last week and took away a large amount of produce.

Fifty thousand dollars will be expended in the construction of buildings at the State farm at Davis this spring.

Prof. Jaffa, of the State University, recently addressed Petaluma poultry growers on the Hogan system of laying fowls.

A constitutional amendment revising taxation system of the State will be presented to voters of California next November.

Forest Supervisor of Trinity National Forest will endeavor to secure the eradication of poisonous plants from the grazing area.

Seventy-five per cent of the hop growers of the Sacramento valley have become members of the Pacific Coast Hop Growers' Association.

Orland claims the distinction of being the only place where United States reclamation service has undertaken irrigation of lands wholly under private ownership.

Sonoma county hop growers met last Saturday at Santa Rosa to make more complete arrangements as to joining the Pacific Coast Hop Growers' Association.

Town of Gridley is said to be growing more rapidly than ever in its past history, which is explained by the changing of the wheat farms to orchards and vineyards.

Hop growers about Santa Rosa are thoroughly organized as a member of the Pacific Hop Growers' Association and are willing to join in the movement of the Coast to destroy part of the hops of the Coast if necessary, in order to secure living prices.

Central California

Dinuba rainfall amounts to 2.16 to date.

The Sierra Nevadas have a good coating of snow.

Grain seeding near Bakersfield is progressing rapidly.

Tulare had a most interesting farmers' institute last week.

Prune shippers at San Jose report many inquiries for prunes.

The Coast is said to have about 500 cars of prunes yet to forward.

A large number of wells are being developed in the Wasco district.

Lodi has shipped over 800,000 cuttings of Tokay grapes this season.

A company of Los Angeles capitalists is planting 500 acres of eucalyptus near Tulare.

Over 25,000 acres of grain is being planted on the Miller & Lux ranches near Bakersfield.

The pure-food-sulphur discussion has caused a shrinkage in the orders for peach and apricot nursery trees.

Canners at San Jose report the pack of 1907 as practically cleaned up. The prices received this year are the largest ever.

The Board of Prison Directors has reduced the price of grain bags to 6½ cents; 3000 bags is the limit to any one purchaser.

The Sierra Stock Growers' Association in a convention at Fresno last week elected the following officers for the ensuing year: President, Thomas E. Bacon; secretary, J. D. Collins. These two, with T. J. Simpson, D. C. Sample and J. A. Rogers, comprise the board of directors.

Kings County Poultry Association has elected the following officers: President, M. Bassett; vice-president, C. L. Newport; treasurer, J. R. High; secretary, Howard Lane; assistant secretary, L. H. Pratt; executive committee, C. L. Newport, James Cecil, Mrs. George Slight, E. F. Bradley and L. H. Pratt.

The shareholders of the co-operative creamery at Tulare report a prosperous season and the directors for the coming season are: S. B. Anderson, J. M. Slinkard, William Swall, P. E. Reinhart, M. L. Cottle. The directors organized by electing S. B. Anderson, president; J. M. Slinkard, vice-president, and M. L. Cottle, secretary. W. B. Cartmill was re-elected manager.

Southern California

Redlands has a tree commission.

Redlands has shipped nearly 800 cars of oranges.

The recent glorious rain left the mountains snowcapped.

The rain caused almost complete cessation of orange shipping.

Parcels Post League in Riverside is making a strong campaign.

The Bixby ranch at Long Beach will produce 55 tons of olives this year.

Beet sugar manufacturers are investigating conditions of Imperial valley.

Orange county has become the greatest potato producing section of Southern California.

The promiscuous destruction of shade trees in Santa Ana is calling forth protests on the part of many.

The Anaheim Union Water Company will give a big barbacue on the completion of its big irrigation reservoir.

The Oxnard sugar factory is having its regular annual cleanup and its machinery put in good condition for the coming year.

The acreage of sugar beets already planted at Oxnard is 7000 acres, and is now increasing at the rate of about 400 acres a week.

The Orange County Celery Association met last week to discuss the subject of the California Vegetable Union handling the crop.

All Southern California was given a great blessing in the recent storm, that amounted from 4 to 6 inches, according to the section.

Celery shipping has proceeded more slowly recently owing to a large quantity of Florida celery which has filled the Eastern markets.

The annual meeting of the stockholders of the Azusa Irrigation Company was held at Azusa January 11th. A large reservoir will be constructed this season.

The recent storm gave to Alhambra 4.84 inches; Santa Barbara, 3.25; Redlands, 3.44; San Bernardino, 3.75; Riverside, 3.37; Long Beach, 4.19; Bakersfield, 2.09; Ontario, 6.02; Gardena, 3.03; Ventura, 3.83; Oxnard, 5; Venice, 4.08; Pomona, 6; Pasadena, 6.56; Avalon, 3.61; San Diego, about 1 inch. This makes a total for the season ranging all the way from 6 to 12 inches over the soutnern part of the State.

The Coast

Portland, Oregon, has seventy-eight cars of onions yet to sell.

Portland has inquiries for one shipment of oats to aggregate 10,000 tons.

The Gallatin county poultry show was held at Bozeman, Mont., last week.

Winter irrigation at Clarkston, Wash., has proved exceptionally beneficial.

The Farmers' Union at La Crosse, Wash., have ordered 150,000 sacks for next year's use.

The co-operative creamery at Tillamook, Ore., had a most prosperous year during 1907.

Walla Walla, Washington, has a two-year-old turkey which weighs forty-eight pounds.

Washington appropriates $10.000 annually to aid in the farmers' institute work of that State.

The recent stock show held at Denver is said to be the finest stock show held in that section.

It is said that the Pacific Coast raises hops much cheaper than it can be done in England.

Oregon Experimental Station has just issued a bulletin on the poultry industry of that State.

At the recent goat show held at Dallas, Ore., 150 goats were entered, nearly all being registered stock.

Fruit growers at Seattle, Wash., are still holding their apples for higher prices, offers thus far being too small.

Washington winter school for the farmers held at the State College proved to be very popular this year.

Orchardists at Eugene, Ore., are cleaning their orchards by spraying and destroying badly infected fruit trees.

An effort is being made to establish an experimental poultry plant at the Puyallup Experiment Station in Washington.

Montana wool growers subscribed $10,000 to wage war against the administration's policy of regulating the public range.

The Hazelwood Cream Co. of Portland, Ore., announces a new milking machine which is said to be a complete success.

The Oregon division of the Pacific Coast Hop Growers' Union are making arrangements for a hop growers' convention to be held at Portland or Salem. Over 700 of the 1200 Oregon growers are members.

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Exclusively
"Birds That Lay and Win"
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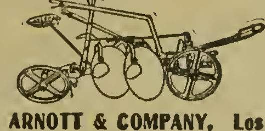

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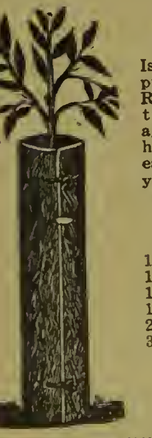

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5 Hardy Everblooming Roses On their own roots. ALL WILL BLOOM THIS SUMMER 25c
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White Maman Cochet, pure white.
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5 Carnations the "Divine Flower," all colors, 25c.
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$1.00 per. doz. postpaid.

Closing Out Sale. 2 yr. old field-grown plants. Send for list.

Cedro Nursery, Gilroy, Cal.

When writing advertisers, mention Cultivator.

The Ornamental Garden

FEBRUARY WITH THE ORNAMENTALS.

SPRING is here in earnest this month. Plant pretty nearly everything and get the ground ready for later plantings of the more tender plants. Plant everything in hardy annuals and perennials. Get the roses in their permanent positions All deciduous shrubs, trees and vines should be planted at once. Border plants, helitropes, verbenas and in warmer sections carnations. If your old carnations are more than two years old, replace with young plants. Transplant pansies, put in gladiolus bulbs, tuberoses, callas, anemones, Ranunculus, Iris, etc.

If you didn't plant enough sweet peas earlier, get busy quickly. They will give a nice lot of late bloom if planted now.

Around the borders, in the neglected places of the garden, sow a lot of California poppy seed. They look better than weeds. Try and make it look as if nature in her better mood were smiling on us.

Clean up the lawn. Fill in the dead spots with a bit of healthy turf, cut out of the margins, or a handful of seed scattered and cared for for a time. The lawn is the finest ornament, next to great forest trees, about the home. Don't neglect it. The bare patch at the back door might be made into greensward at this time of the year.

ROADSIDE TREES.

The district attorney of Santa Clara county gave the board of supervisors of that county some desired information on the question, "Who has control of shade trees growing in a public highway?" which may be of interest to others. He says:

"As some persons view the matter, an abutting owner whose estates extends to the center line of the highway has the right to pluck nuts growing on his land within the line of the highway, and so, they argue, must have an equal right to remove the tree itself, or chop it up into stovewood if he so desires. The matters are not the same. The board of supervisors has power to pay persons who plant and cultivate ornamental trees the sum of $1 for every living tree thus planted, when it has attained an age of four years. It is absurd to suppose that thousands of such trees might, on the next day, be felled by the abutting owners.

"Section 2742 of the Political Code provides, that whoever digs up, cuts down or otherwise maliciously injures any shade or ornamental tree on any highway unless the same is deemed an obstruction by the road overseer and removed under his direction, forfeits $100 for each tree. No special privileges are conferred on abutting owners by this section.

Daffodils require to be replanted in fresh soil occasionally. Three years is considered long enough for the bulbs to occupy a bed or patch. The bulbs may be lifted after the death of the foliage, and be immediately replanted, or dried and stored until fall. In very poor, dry soils a dressing of cow manure may be dug deeply into the beds or patches, and a little bone dust worked through the soil nearer the surface.

The Republican State Central Committee have passed a resolution urging representatives in Congress to investigate rulings of the division of chemistry and protect fruit growers' interests.

The Vegetable Garden

WORK FOR FEBRUARY.

IF THE hardier vegetables, such as radishes, peas, beets, onions, lettuce, cabbage and potatoes have not yet been planted, lose no time. February corresponds to "spring" back East—only we don't have to hurry quite as much in our gardening operations. The sun is daily having more power and atmospheric and soil conditions are ideal for all such vegetables as above mentioned.

For the home garden do not make the mistake of planting too much of each kind at one time. Plan for successive plantings, allowing intervals of 20 to 30 days between. This will insure a far more satisfactory result than to try and grow a whole season's supply at one planting.

It is full a month too early to plant seeds of the tender vegetables—such as beans, tomatoes, peppers, cucumbers, etc. Our nights are so cool and the mean temperature is so low throughout March and April that unless one uses glass or artificial heat, it seems worse than useless to attempt to get such tender, tropical stuff early. It usually takes the tenderfoot a couple of years to learn why he can't have ripe tomatoes from the open garden by the first of June. It is true they grow nicely and bloom freely, but the old timer who plants his tomato seed about the last of March or first of April gets fine, ripe tomatoes about the first week in July just as early as his neighbor who planted a month or two earlier. Tomatoes or any of the tropical vegetables require a certain aggregate number of degrees of heat, and until they get it they will not mature their fruit.—Q. A. L.

THE MOON AND VEGETATION.

The widespread belief that the growth of plants is in some mysterious manner related to the phases of the moon has just been put to the test by M. Flammarion, the eminent French astronomer. At dates selected to correspond with the age of the moon he planted a number of common vegetables, such as potatoes, peas, cabbages, etc., and carefully noted the variation in their growth. The results were rather damaging to the theory of the moon's influence, it being quite impossible to connect in any way the development of the plants with the varying phases of our satellite. M. Flammarion, however, is nothing if not thorough, and he has decided to continue his experiments over a longer period and on a more extensive scale.

Convinced that the growth of vegetation depended largely on sun spot activity, M. Flammarion many years ago began systematic observations on a number of trees in the vicinity of his residence, and now after thirty years he claims to have proved that the annual development of certain trees, particularly the chesnut, varies with the solar disturbances. Of more general interest, are his experiments at the Juvisy Observatory, Paris, where by intercepting the sun's rays with different colored glass he has found that while blue glass keeps vegetation back, red glass hastens it in a most remarkable manner. Some plants, indeed, attain under red glass tenfold the height reached under blue, and by the use of certain colors the color and shape of the leaves can be modified at will.—American Cultivator.

CABBBAGE WORMS.

Prof. C. W. Woodworth of the entomological department of the Agricultural College has been spending a couple of weeks in the Fullerton cabbage fields investigating the aphis question, which is proving most perplexing to the cabbage growers. This pest is comparatively easy to control, even a stream of cold water from the hose being sufficient to knock them off and destroy. But in fields where there is no water, this is impossible. The kerosene emulsion or distillate spray is the best and cheapest. In fact, the cost is so very slight per acre that it would be scarcely any burden on any crop of the value of cabbage.

A one per cent distillate mixture would doubtless be plenty strong to kill the pest.

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Of Northern Grown Seeds—Tried and proved Best for the West. Contains 112 pages and 16 colored photos of Farm, Field and Flower Seeds with full cultural directions. A request will bring it to your home free.
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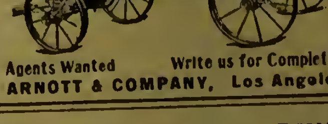

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Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

CARE AND MANAGEMENT OF CHICKS.

WE have been asked for an article on feeding and brooding chicks. This we consider the most difficult problem of successful poultry keeping.

We have heard many say that they can hatch their chicks, but oh, how hard it was to raise them; they believed that their stock was not strong or their brooder was not properly constructed. Never stopping to consider that perhaps if their brooder was run proper and the chicks fed right that there would be no trouble. Many factors enter into the construction of a perfect brooder. Of all the brooders on the market not one of them can claim all the good points. Each system has their good points, and we believe if any brooder now on the market or advertised in our columns are run correctly, that success can be obtained.

Temperature Necessary for Chicks.

There are so many different theories in regard to proper temperature that we are going to quote from a bulletin issued by the Cornell University, Itacha, N. Y.:

"That a temperature of 100 degrees is essential to successful brooding of chicks in either large or small flocks. The larger the flock the more important it is that a high temperature is maintained, because greater is the danger of crowding. When the chicks become cold they like to go quickly to a warmer temperature than they could occupy with comfort or safety, if compelled to remain there. Chicks will crowd when they are become cold, if sufficient heat is not supplied. It is but natural that they should. A chick's body temperature is normally about 105 to 106.

"Therefore, a cold chick cannot be blamed for rubbing up against another chick 105 degrees warmer instead of standing alone in a temperature of 80 to 85 degrees. The more the chicks crowd the hotter the pile becomes and, therefore, the more attractive is the source of heat to the chicks on the outside. If a temperature of 100 degrees is maintained, the chicks will spread out of their own accord. They can be trusted to remain in the temperature which is most comfortable to them, which also will be the temperature best suited to their needs. The first sense to be developed in a young chick seems to be the sense of touch, as manifested by the sensation of warmth, which to the chick means comfort and comfort to the chick means home. The first instinct, therefore, to be awakened in the chick appears to be that of location. When once it feels and sees the source of heat and comfort, it will almost invariably return to it.

"The importance of a high temperature in a brooder cannot be overestimated. It is vitally important. Heat brought the chick into the world and lack of heat will take it out of the world. Without warmth chicks do not sleep well. They huddle, they are compelled to stand to avoid being trampled to death. A chick cannot sleep standing. Without sleep chicks do not rest. Without rest chicks cannot grow. Sleep and rest are as important to a chick as to a baby. A large part of the slow growth and mortality with young chicks is caused by lack of sleep caused by lack of heat."

A Word of Warning.

To those using a brooder we do not advise the heating of it to a temperature of 100 degrees only in the warmest place. If you have two departments in your brooder you can heat one to a temperature of 100 and by having a curtain separating the two departments, there will be about 15 degrees difference. This will give your chicks a chance to get into a cool place, if too warm. In heating your brooder to 100, put your thermometer in the warmest place; this will give you several degrees range in your heat.

Pure Air.

"Pure air is even of more vital importance to poultry than it is to other domestic animals, because of the warmer temperature of the bird's body, which normally is 105 to 106 degrees. This high body temperature is maintained by combustion of pure air with the food nutrients contained in the blood. Without pure air perfect combustion is impossible. Without perfect combustion the chick cannot be warmed from within the body and, therefore, will not be healthy or comfortable even in a warm brooder. The chick is a quick growing, quick breathing animal, requiring rapid digestive and assimilative changes, and therefore suffers seriously and quickly when closely confined and compelled to breathe impure air. Leg weariness is almost certain to result from close confinement and heavy feeding, which usually is accompanied by a close and more or less vitiated atmosphere.

"A chick is naturally active, and if given an opportunity to exercise and scratch in a warm, light, clean litter, it will develop strength and grow fast. Good health will not go with close confinement and heavy feeding."

The larger your floor space the easier to keep your brooder clean and to supply same with pure air. Arrange all sunlight possible, it adds warmth, kills germs, keeps the litter dry and provides light, thus encouraging the chicks to hunt for their food. Don't confine the chicks under a glass with the sun shining directly on it, as it will be to hot for them; have brooder so arranged that they can go into the shade when they desire. Don't neglect to lower the temperature as the chicks grow; after the first week they don't require nearly so much heat.

Feed for Chicks.

If you want your poultry to be profitable you must keep the chicks growing from the time they are hatched; by so doing will reach maturity much earlier than to half feed them. There is no profit in keeping a chick just alive, whether it is intended for laying stock or for the market.

Greater care should be taken in feeding chicks than fowls, as chicks have delicate digestive organs and will eat anything that is put before them. So we should be very careful to give them good, sound grain and seed, never feed mushy grain under any circumstances.

First Feed.

Chicks should not be fed until they are at least 24 hours old. As nature has provided for this and they must not be fed until they have had time to absorb the yolk. For the first meal a good food is hard boiled egg chopped fine; (shell and all) mix with about three times the amount of bread or cracker crumbs; this will be a good feed for the first week. If you have not the eggs stale bread (not musty) soaked in milk. This, when fed, should be squeezed out until it is crumbly.

There are a number of baby chick foods advertised in our columns which when fed according to directions are excellent, but in case you are not close to a market where you can get a chick food, you can get a hand mill and grind your own grain. A good feed consists of millet seed, finely cracked corn and wheat, oat meal and broken rice. A good mixture is 10 pounds cracked wheat, 5 pounds cracked corn, 2 pounds millet seed, 2 pounds cracked hulled oats, 1 pound fine beef scrap; to these add a little charcoal.

Green food should be supplied in some form. If you can let them have access to a lawn or a small patch of alfalfa or rye, they will pick all that is necessary. But in case

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

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And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

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Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

Eggs for Hatching

From Carefully selected purebred stock of

White Minorcas **White Leghorns**
Buff Orpingtons **Aylesbury Ducks**

For full particulars and prices on eggs and incubator chicks apply to

Coulson Poultry & Stock Food Co.
Petaluma, Cal.

Beef Scraps **Raw Bone**

GUARANTEED ANALYSIS:
Protein 65%
Fat 8%

Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps No fertilizer ingredients in **these** Beef Scraps.

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Made of Clean Beef Bones, surplus fat removed. Cleanest Raw Bone on the Market.

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CROLEY'S ***Meat Scraps***
Meat Scraps

No Hair **$3.00 per Sack** *No Hoofs*

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Croley's Green Bone, $2.50 per Sack

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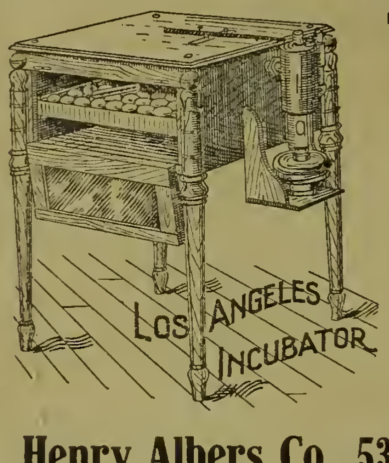

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Little Chicks should be fed on Excelsior Chick Food

prepared from clean, sound grains, seeds, beef scraps and charcoal in proportions to make a well balanced ration and produce strong, healthy chicks and keep them continually growing. For sale by all dealers and grocers. Take no other.

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S. C. Black Orpington Cockerel
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Eggs from imported prize winning

S. C. Black and Buff Orpingtons

From $1.50 to $15 per setting. A good pen of **White Orpingtons** for sale for $25. Write for descriptive Circular.

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EGGS FOR HATCHING

All Eggs are from good, strong vigorous stock.

WYATT & WOLLITZ, Proprietors
—Breeders of—
Single Comb Buff Orpingtons
White Rocks and
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Orpington and Rocks $2 per setting; $6 per 100. Duck Eggs $1.50 per 12.

Write your wants. Correspondence carefully answered.

Box 298. WYATT & WOLLITZ, Corona, Cal.

Barred and White Rocks

White Wyandottes and Beautiful Little Golden Sebright Bantams

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D. T. Heimlich - Jacksonville, Ill.

you can't give them this chance, they should have grass or lettuce chopped fine.

Exercise.

Exercise is a necessity, and if your chicks are kept in the brooder and brooder-run, cover the floor with fine litter and scatter your grain in this and make them scratch for it. Keep your chicks comfortable and happy with plenty of wholesome food and fresh water constantly before them, and they will do their part.

* * *

AROUND THE YARDS.

Keep your brooder clean.

* * *

Provide grit for the youngsters.

* * *

Never let the chicks get hungry.

* * *

Never allow your chicks to get chilled.

* * *

No brooder pen should contain over 50 chicks.

* * *

Fresh air is necessary if you would have strong chicks.

* * *

Sunshine will kill the germs and keep the brooder sweet.

* * *

Chicks may live without charcoal, but they will do better with it.

* * *

If properly managed, an incubator may be made to pay for itself in the first hatch. It depends on the operator, however, as much as the incubator.

STATE POULTRY KEEPERS' ASSOCIATION.

The poultry keepers at Hollister are moving toward forming a State organization. The desire seems to be to form it along lines of commercial poultry, rather than the fancy or for show purposes. From the Call we note:

As secretary of the Hollister Poultry Keepers' Association am writing to all the poultry associations in the State that we know of making the same proposal: That we meet at a place most agreeable to the majority on or before the 19th of February, 1908, confer together, elect officers and organize a State association in which we will all be interested, each branch being represented. Please let me hear from you soon stating your preference as to time and place of meeting.

The idea has been advanced that ultimately we could eliminate the middleman both in handling our products and in purchasing poultry supplies, feedstuffs, etc. While we would not wish to hamper nor to dictate as to the action to be taken by the delegates, will say that we realize that many of the associations are organized more especially to hold exhibitions, but we are also aware that where sufficient interest is shown to warrant exhibitions being held, the same interest manifested along other lines will prove greatly to the advantage of the individual as well as the association. While touching on this point we will say that the Hollister Poultry Keepers' Association, having a membership of nearly 80, some 6 months since entered into a contract with a local merchant whereby we purchase all our feedstuffs and poultry supplies at but 2 per cent above what same cost the mrechant, when we take direct from the car regardless of amount purchased, and when taken from the warehouse in lots of 10 sacks or more 2 per cent plus 3 cents per sack or in less than 10 sack lots 2 per cent plus 5 cents per sack, we through our executive committee having access to bills, statements, etc., and power to direct where purchases shall be made or of what grade or brands. We have shipped in 2 cars of beef scraps costing us $2.75 1-2 per 100 lb. at the car, not only this, but with co-operation of Prof. M. E. Jaffa of the State University we have been able to buy feedstuffs on the analysis, this as you will see being of the greatest value to us.

We hope that after a State Central Organization shall be formed each county will be encouraged to form an association, nor need the associations be restricted to one for each

Imported Aylesbury Duck

Winners at Crystal Palace and leading shows in England.
Also at the State Fair, San Jose and Oakland, 1906.
Also State Fair and San Jose, 1907.
Stock for sale and Eggs in season.

Vincent G. Huntley
Petaluma, Califor

Also Breeder of Buff and Black Orpington and Barred Plymouth Rocks.

EAST SAN GABRIEL EGG RANCH

S. C. White Leghorn
Barred P. Rocks

Won on White Leghorns at the Poul Breeders' Association show, Jan. 6-12, 1 4 firsts, 2 seconds; 4 thirds; 1 fourth; 1 fif Also Association cup for highest scoring White Leghorn cockerel. Eggs for hat ing, $1, $1.50 per 13; $5 per 100. Prize w ning pens, $2 per 13. The hens in our bre ing pens are all selected two-year-old he and bred to lay and win.

Swanson & Johnson, San Gabriel, C
San Gabriel Electric to Masonic Home then 2 blocks South.

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All kinds. Hatching da We ship everywhere. Se for price list of chicks a eggs.

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Buy the Genuine South Be Largest Assortmen Plows for work and s

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say you want my f 124 page Incubator Brooder book? Ma free. Send now. ready.

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Baldwin's White Leghor

First prizes San Jose '06, and State Fair '0
Three 1sts and special, San Jose, '07.
Three 1sts, three 2nds and $50 Cup best disp Petaluma '07.
Send for free '08 Catalogue and price list.
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Why fail with Poultry when Beginners, and Agricultural Stations use and reco Cyphers Incubators and Brood Insure yourself with our Money-Back Gu —Write nearest office for and decide by Illustrated book, How to Make Money

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Prolific Breede
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Satisfaction Guarante

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80-Acre Poultry Ranch

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WHITE WYANDOTTES EXCLUSIVEL

Good, White, Typical Birds. Stock and Eggs For
W. A. SEYMOUR
470 No. Beaudry Ave. Los Angeles,

White Wyandottes (Hubbard Sto

Hens, Pullets, Cocks, and Cockerels for sale. Prices reasonable

Cannon Poultry Co. 2851 Morgan Ave Los Angeles, Calif

county, at least one county having two associations.

Another point which it might be well to touch upon is the little recognition which has been given our interests by the State, much less than we feel is due to the magnitude of this industry. The apropriations for poultry investigations are not sufficiently ample to obtain the best results, are not in propotion to the importance of the work, and we are confident that with the influence which we could exert through a State association much more liberal appropriations could be secured.

MISTAKES MADE BY MANY POULTRY RAISERS.

I have read in many poultry papers and bulletins where farmers and stock raisers feed cracked oyster shells and other grits to young chicks. In my experience with the feathered stock I made one experiment with grit and oyster shells and find that to feed these articles to young chicks is like feeding an infant with beef steak.

Have none of the readers of poultry journals read the physiology of the human system? Well, let me tell you that with feathered stock it is the same. We have a juice which aids us to digest our food called gastric juice. So have chicks, and at their early age it is not strong enough to digest the grit given them. The grit makes hard crops and the result is death. Feed your chicks wheat, ground corn, rye, etc., until you see them picking grit for themselves. Nature is there to teach them.

LAYS EGGS AT NIGHT.

Tacoma has a hen that does not belong to the union. She belongs to J. Lavergne, and she works overtime, laying an egg every night at 11 o'clock.

Bridget is a little white hen and she works industriously all day long gathering food and scratching up the yard. At night she turns in as early as other hens.

Promptly at 11 o'clock she cackles out the news that she has completed her day's labor and is ready to go to sleep. Lavergne, who has investigated the cackling several nights, has never failed to find the egg.

A BRIGHT CIRCULAR.

One of the latest circulars to reach our desk is issued by Frank E. Baldwin, of San Jose. The circular is well written, and finely illustrated with prize winners in Mr. Baldwin's yards. Also shows a number of his houses and the arrangements of his yards.

Besides giving a list of his winnings, the circular gives a description of his breeding yards for 1908, with the price of eggs from each yard. This circular contains a great deal of information to anyone interested in prize winning White Leghorns, and will be mailed to anyone writing to Mr. Baldwin and requesting it and mentioning the Cultivator.

IOWA PICNIC.

Some where between 15,000 and 20,000 former Iowans will picnic at East Lake park, Los Angeles, on the 22nd of February. A fine program of songs and speeches will be given.

The Annual Studebaker Almanac, which is always eagerly looked for by farmers, is out and being distributed. If anything, this 1908 book will be found more valuable than any of its predecessors. In addition to the regular calendar and almanac features, it contains weather forecasts for each month, an extended list of select recipes and a mass of historical and entertaining matter which will make it interesting to every member of the family. Among these latter features we note plans for various seasons' parties, history of the flag, population of cities, nicknames of presidents, postal rates, weights of grain, maxims of Washington, interest tables, ages of animals, ages of birds, etc. Almost any local Studebaker agent can supply copies of the Almanac, or send direct to Studebaker Bros., South Bend, Indiana, enclosing 2 cent stamp to pay postage.

The Coquille Valley Fruit Growers' Association has been incorporated at Myrtle Point, Oregon. The principal object of the new organization will be the marketing of apples.

Genasco
Ready Roofing

The only roofing water-proofed entirely with natural asphalt — Trinidad Lake Asphalt — the greatest weather-resister known.

Smooth or mineral surface. Several weights. Ask any wide-awake dealer. Refuse imitations and substitutes. Write for Book 35 and samples.

THE BARBER ASPHALT PAVING COMPANY

Largest producers of asphalt, and largest manufacturers of ready roofing in the world.

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S. C. White Leghorns
The Kind
That Pays

For my breeding birds I each year select a number of my handsomest, earliest developing pullets and trap nest them during their entire first laying year. The next season from these I select only those having satisfactory laying records. In my breeding pens are only hens of proven worth in their second and third season, and no bird that has ever shown a trace of disease. Each pen mated eleven hens to one handsome cock. I believe there is not in California a handsomer or better lot of birds and few as good. Can furnish eggs for hatching from these birds at $1.50 for 15, $7.50 per 00 or $60 per 1000. Let me book your order now.
Correspondence solicited.

S. E. Gregg
26 So. Adams St. Riverside, Cal.

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By the Bihn-Schofield Method of Incubation
PATENTED

Are well hatched — are hatched as the hen hatches. Four years ago we could handle 3,500 eggs at one time, but with a present capacity of 100,000 eggs we can not fill our orders during the Spring months. Our chicks are always strong and no weak or defective chick is even sent out knowingly. The Petaluma plant sells White Leghorns only.

Bihn Bros. Gardena Hatchery
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Spargur's Trap-Nested
White Leghorns
Eggs $1.50 per 15, $7.00 por 100. I. R. Duck Eggs, $1.00 per 13, $5.00 per 100.
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Free
124 Page Incubator and Poultry Book, 250 Illustrations. Send to-day.
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All kinds. Hatching daily. We ship everywhere. Send for price list of chicks and eggs.
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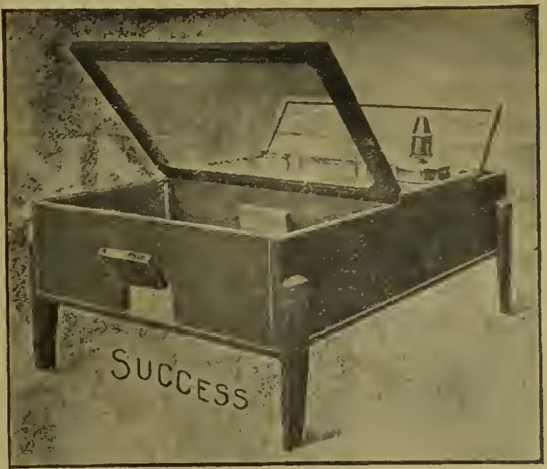
That is LAXATIVE BROMO QUININE. Look for the signature of E. W. GROVE. Used the World over to Cure a Cold in one day. 25c



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Bred for Eggs and Beauty Fertility Guaranteed

White Wyandottes Exclusively
"Cream of the Coast"
The winnings of our strain are as great as ever made in Strong Competition on the Coast.

First Cock, Hen, Cockerel and Pullet Many other prizes

Eggs
Sittings, $2, $3 and $5 per 15. Per 100 eggs, $10 and $15. Now ready.
Exhibition eggs $8 per 15, from "Madam White" and her daughters; also other equally superior fowls. Day old chicks, hatchable eggs, for early spring delivery.

Stock
Breeding Stock from mature standard-bred fowls. A few young pullets at bargain prices. Are strong, healthy, vigorous stock. Must have the room. A trio, two pullets and cockerel, from pedigreed stock, very reasonable. Incubator Chicks, $15 per 100.

Bookings Must Be Made in Advance.
Correspondence a Pleasure. We Can Satisfy You.
Send for New Price and Mating List.

Ranch Mirasol (Lincoln Avenue Poultry Yards)
S. C. White Leghorns---Mitchell Strain
Eggs for Hatching
Our birds are not the culls and accidents of the fancy breeder, but have been bred for generations for a definite utility type to lay both quality and quantity. They are selected by the Hogan system and mated by Standard requirements. Ready for delivery January 1st. Order books now open.
Carl C. Curtis, Owner, Lincoln Avenue and Ventura St. Pasadena, Cal.
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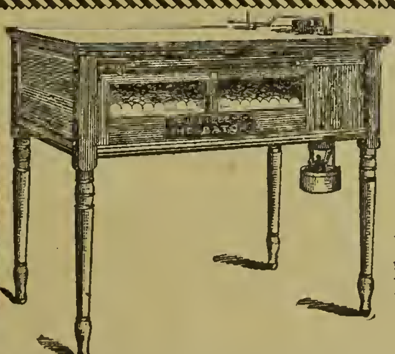


The Jubilee Incubator Co.
HAS A BIG SURPRISE FOR THE POULTRY FRATERNITY
Success Now Assured by Using
The Jubilee
We have something new for you. Send us your name to place on list for Catalog "J" being issued.
Jubilee Incubator Co., Sunnyvale, Cal.

MISSION VIEW POULTRY RANCH
At the Los Angeles County Poultry Association Show, Dec. 7-14, 1907; White Wyandottes, 1, 2, 4. 5 cks; 1, 2, 3, 4 ckl; 1, 2, 3, 4, 5, hen; 1, 3, 4, 5, pul; 1, 2, 3, 4, 5 Pen; MAMMOTH BRONZE TURKEY—1 adult, 1, 2, 3 yearling; 1, 2 young tom; 1, 2, 3, 4, 5 hen; and 2 on ten pullet pen; 1, 2, 3 pullet.
Out of thirteen possible specials I won ten as follows: The Times cup for best display of White Wyandottes, the Los Angeles Produce Exchange $50.00 silver cup for best display of table fowl, the Henry Albers loving cup for best pen of White Wyandottes, Harper & Reynolds Company's handsome carving set for best display of White Wyandottes, the Superintendent's cup for best display of any one exhibitor of any one breed, a California incubator for best display of turkeys, the Association cup for best White Wyandottes, the National White Wyandotte Club cup for best Wyandottes, all the National Wyandotte Club ribbons for best cock, cockerel, hen and pullet; and in the competition open to ladies only; cut glass vase for hen and ten chicks in a large breed; and cut glass salt and pepper shakers for best bantam hen and five chicks.
I had the largest exhibit of White Wyandottes ever made on the Pacific Coast by any one exhibitor. I raise all my birds and keep forty breeding pens and all my hens are trap-nested.
MRS. C. D. HUBBARD, San Fernando.

Starbuck's Barred Plymouth Rocks
We trap nest our hens. Why set from poor layers? Bird laying qualities are inherited the same as any other. This year we have discarded all old matings and have gone to the next generation. Cocks have 9 generations of 200 egg mothers. Hens all from 200 egg mothers and from cock with 6 generations of 200 egg mothers, and are laying fine. We have divided into pens according to the way they are showing up in six months laying. $2.50 for 13 eggs from first pen. $1.00 from 2nd. until they have time to make longer records. (Except from our one best, not for sale. We claim the world's Barred Rock, 6 months laying record for this one.) We have something to crow about. No Sunday sales or visitors. Orders postmarked after Feb. 12th will be charged $2.50.
Wm. Starbuck & Son. Fullerton

S. C. Rhode Island Reds True Red Yards
Four pens, headed by Red Ranger, Red Flame, Red Scout, Red Cloud. Eastern winners. Eggs, standard utility, $1.50; select fancy; $2 for 13: utility stock, $2. A. B. WHITE, DOLGEVILLE, CAL.

Plant Berry Plants Now

Your order will be filled the same day it is received, with A No. 1 plants, not rubbish. 125,000 plants sold this season and not a kick coming. Customers order two and three times and then tell their neighbors. That's why Mitting's berry plants go all over the coast. Send for my catalogue; it gives a true description of the berries I sell. Hundreds of volunteer letters received, praising my plants, packing and promptness. Everything I send out I warrant to be true to name. Satisfaction guaranteed.

The Superlative Raspberry, 2 years old,	**50 cents each, $5.00 per 12**
The Golden Drop Gooseberry, 2 years old,	**$1.00 each, $10.00 per 12**
New Black Currant, Biskoop Giant, 2 years old,	**$1.00 each, $10.00 per 12**
Lemon Ponderosa,	**20 cents each, 50 cents for 3, $1.00 for 6**
Crimson Winter Rhubarb, - -	**$1.00 for 12, $5.00 for 100**
Mersereau Blackberry, - - -	**14 for $1.00, $5.00 per 100**
Mammoth Blackberry, - - -	**75 cents per 12, $3 per 100**

6 at 12 Rates, 25 at 100 Rates
Express Paid by Me at Above Prices

A. Mitting
17 to 23 Kennon St. Santa Cruz, Cal.

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Grafting Two-Year-Old Trees.

About what time in the year to graft young trees? Mine are two-year-old peach and apricots. What would you graft them to and how would you do it?—Peter Mathason, Fowler.

You do not state what the trouble is with your trees, but we judge they are worthless varieties. We would graft the peaches to some variety that is a moneymaker in your section. Philiips' cling or some other good canning peach. Kelsey and Wickson plums do well on apricot, and if there is any demand for them as a shipping fruit, as there is in other sections, they would be an excellent variety to put on your apricot trees.

Graft your peach trees when the color of the blossom first shows, using a bark graft around the tops of the stumps. Cut the scion with a flat side and tapering to a point. File a twelve penny nail to the same shape and raise the bark with that and slip the scion in, wind the top of the stump with waxed cloth and paint the top with warm wax. The upper ends of the scions should be waxed to prevent them drying out. It is essential that all cracks should be stopped with wax, and after the scions have been inserted four or five days, go over the trees again with warm wax and a brush and give them another coat. At the same time have some paper bags just large enough to slip over them and gather around the stump with a rubber band or tie with a string. Pinch out the two corners of the bag so as to give ventilation. Watch the grafts and when they begin to swell and the green leaves are just coming out, remove the bags, provided the weather is not excessively hot, in which case the openings may be made a little larger by tearing off the corners of the bags so that the sprouts from the grafts will grow out through them.

Young apricots may be grafted the same way. Any trees that do not take the grafts, either apricots or peaches, may be budded in the sprouts that come from the stumps. —J. W. M.

Spineless Cactus.

Can the Cultivator, or any of its readers, tell me where I can get "Spineless Cactus" cuttings or plants? I see no advertisement in Cultivator where it can be gotten. R. C. Foster, Los Gatos.

George C. Roeding of the Fancher Creek Nursery, Fresno, is managing agent for all the Burbank new introductions, and either has the handling of the spineless cactus or can give information as to where it can be secured.

Land for Potatoes.

We have a piece of heavy land which has been in alfalfa for the past six years, and was ploughed last fall. Will Burbank potatoes do well in such soil? Your paper is both interesting and helpful. W. S. Ingham, Highland.

It is very difficult to give an intelligent answer to this question without seeing the land, and knowing more fully what is meant by "heavy land." Usually this means some grade of adobe, in California, but not always. Generally speaking, heavy soils are not favorable for potatoes. The fact that this piece has been in alfalfa would be in its favor, but unless the inquirer knows that it will not be difficult to keep loose and mellow during the life of the crop, I would hesitate to advise its use for that purpose. It is often worth while to do a little experimenting in such cases. Why not try a few rows across one side of this piece, giving the best care posible and if the trial proves successful it will be valuable knowledge acquired without great risk. Try a few White Rose as well as Burbanks. Q. A. L.

To Make Bacon.

Kindly give recipe for curing bacon and hams. How long should it be salted? E., Dinuba.

To cure dry, rub thoroughly with salt, to which a tablespoon of saltpeter has been added to each gallon, leaving on bench or shelf so that brine may drain away, or may be kept in closed vessel. Rub well ocassionally, say once a week, for five or six weeks.

The wet or brine process will take a week less to accomplish the salting. Make a brine strong enough to hold up egg; add for each hundred pounds of meat seven ounces of saltpeter and three pounds of sugar. Pour over meat which has been packed in keg or jar. Change brine in week or two. When salted, smoke to suit.

Gummed Cherry Trees.

What causes cherry trees to gum and what can I do for them? Mine are a year old this spring. Some I wrapped. They are all gummed.—J. J., Penryn.

Of diseases to which the cherry is subject the most common and most troublesome is that which our correspondent describes, the gum disease. The cause of this disease, we believe, has not been definitely determined, but its symptoms are plain; the sap oozes through the bark and congeals in globular masses of greater or less bulk. Unless these are removed, they sometimes induce decay of bark and wood and so prove inj ous to the tree. The remedy is to away, with a sharp knife, the ou bark beneath the gummed porti and cover the wound so made wit varnish of shellac and alcohol. Wh the gum accumulates in the cro formed by the junction of two lin as it often does, it should be clea out, or it forms a receptacle for caying organic matter, which cause the tree to decay at the poin lodgement.—J. I.

Peach Varieties.

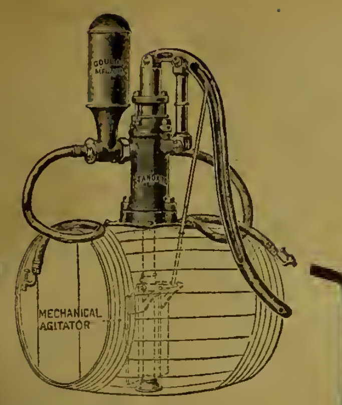
I wish to set out about 50 pe trees of early and late varie Please advise me which kind kinds are mostly planted in our cality. Some fourteen years a bought one dozen of peach trees if I recollect right the nursery called them lemon and orange cli I replanted those and they n amounted to much. When shou plant the trees? C. O., Colton.

The orange and lemon clings fine fruit. For varieties to r through season see Mr. Mills' swer to query on page 74, Januar Buy good trees and plant at onc within the next month.

Stomach Irritation.

I have a horse broken out ove neck and shoulders in small pim He itches very badly and will sc and rub against anything he can to, till he has the skin rubbed c patches. Appetite is good and s strong and in good health other W. E. P., Lindsay, Cal.

Stomach irritation and pro over-feeding. Cut off the grai tirely; rub the pimples with gr adding a small quantity of ca acid to it or use a gall cure if convenient. A home remedy o and lard, equal parts melted tog or of tar, soft soap and alcohol, parts, are good. Clear the h bowels with a good warm bran frequently. Arsenic is the re remedy for this and if the liqu form is too hard to give, get a



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With 3-inch brass-lined cylinder, brass-encased outside-packed plunger and brass valves. Large air chamber and long lever. Powerful enough for two leads of hose and four nozzles. Can be placed on end or side of barrel.

Complete outfit, including Pump with suction pipe and strainer, one 25-ft. lead of 1-2 in high pressure spray hose, 6-ft. iron pipe extension and one Seneca spray nozzle (no barrel or agitator) packed ready for shipment for $12.75.

In ordering state whether you want sprayer for end or side of barrel.

We Carry Largest Line of Sprayers on the Coast

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Free Spray Catalogue, "How to Spray, What to Spray, What Sprayers to Use."

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Machinery and Supplies
Successors to
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Table Grapes

These, the Pierce Isabella grapes, resemble yet surpass the Eastern Concord in that they are larger and the skins are more tender.
Last season we did not sell a pound of these grapes for less than 4c.
Vines 1 and 2 years old; per doz. 75c; per hundred $5.00.

Barbour Ranch
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S. S. Wallace & Co.
Produce and Seed Merchants
Potatoes, Onions, Peas, Beans, Etc.
We exercise the greatest care to have all Seeds pure and reliable
07 No. Main St. Los Angeles, Cal.

Trees French Prunes and Apricots, Muirs and Tuscan Clings, and many other varieties of Peach Trees; all fine budded stock. Large stock of all the ading varieties of Apples, grafted on whole roots nd free from all pests. Also a fine stock of herries, Pears, Plums, etc. Send for price list.
E. SCHEIDECKER SEBASTOPOL, CAL.
Prop. Pleasant View Nursery.

FRESNO DRAG AND WHEEL SCRAPERS
We are headquarters. Write for Complete Catalog.
Agents Wanted
ARNOTT & COMPANY,
112-118 So. Los Angeles St., Los Angeles, Cal.

Sugar Gum and Red Gum Trees
100 for $2.50
By mail or express. Charges prepaid. 6 to 8 inches high. Ready for planting. Delivery guaranteed.
HENRY SHAW
Riverside Nursery
320 River St. Santa Cruz, Cal.

When writing advertisers, mention Cultivator.

of the solution from the druggist and moisten the bran with half an ounce twice a day for ten days, then stop for a week. These troubles are very stubborn to yield. M. E. S.

Best Eucalyptus for Lumber.

Please give best species of eucalyptus for lumber; to be grown on dry land.—A., Fallbrook.

Probabally the red gum (E. rostrata) would be the best. It makes exceedingly fine lumber. Forest mahogany (E. resinifera) is also exceptionally fine. One of Los Angeles' finest buildings, the Grosse building, is finished with it and it has a richness given by few other woods.

Dehorning.

Please give method of treating calves so the horns will not appear. M. P.

The operation is performed as follows, and is uniformly successful, if performed before the calf is three days old: The little animal is caught and gently laid over on its side, in which position it is easily held by one assistant while the operator clips the hair off the trifling prominence on the frontal bone which marks the spot on the uppermost side of the head where the horn would be developed if not interfered with. He then takes his stick of potash, dips it in cold water, and carefully rubs it over the part just clipped for the space of, say, ten seconds. The calf is now turned over, the corresponding portion of the frontal on the other side clipped and throughly rubbed with the moistened potash the same way as the first. By this time the side first treated is dry and ready for a second application of the caustic, which should conform exactly to the first. Follow the same procedure on the remaning side, where the matrix of the embryo horn has been located, and, if the caustic has been properly applied, no horns will ever make their appearance.

Poisonous Plants.

A subscriber at Metz wishes information as to poisonous plants. We haven't the information at hand, but will endeavor to secure it later. Any subscriber with experience will be most welcome if he will come with information.

Flax for Borders.

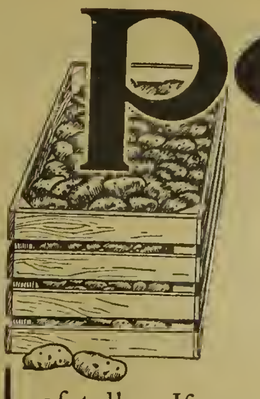
Will flax grow successfully in California? If so, I think some of the large grain and hay ranches should try a border of say fifty or sixty feet around their crop as a protection from fires. I have seen a very fierce fire come against a border sown with flax in Manitoba which completely died out and in no place had it burned into the flax more than twenty-five or thirty feet.—J. C. R. Hightman.

Flax can be and has been grown in California. A few years since there was a very large acreage sown to it in Merced county and it has been grown at times in other places. It has not, however, become a popular crop in the State. Our correspondent's suggestion that it be grown as a protection against fire around the grain fields, may be a good one and is referred to our wheat men for their consideration.—J. I.

Killing Stumps.

I am told stumps can be killed by boring a two-inch hole down the stump in center in the winter or spring and fill up with coal oil and a little saltpeter and plug it up, and by fall it can be burned. Please give me full particulars. My stumps are mostly oak and some redwood.

There was a report of an investigation of this made by some experiment station. I cannot locate it at present. The conclusion, however, I remember as stated that there was nothing to be gained by the use of saltpeter. My foreman thought that it was a good way, and he treated some large palm and cottonwood stumps. There were some left untreated; the one burned as readily as the other at the end of the year. No doubt, it kills them to use salt on them and prevents suckering. We all know that it is necessary to skin a large stump down to the point where the bark changes to root covering. This causes death of the



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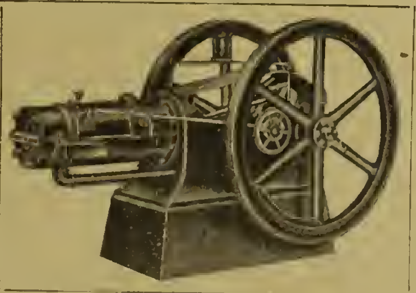

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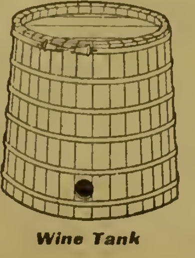
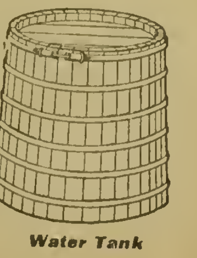


Wine Tank



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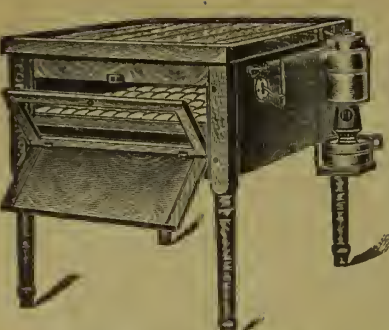

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roots at once. I kill bamboo when it comes up in the garden walks by cutting it close to a joint to leave a hollow cup and fill this with salt, then pour on water. This ends that particular root's stock growth for several feet back of the sucker.—M. E. S.

Use Stock Dip.

What can a person do to get rid of ticks on cattle? If crude oil is good does it need to be diluted?—J. W. W., Healdsburg.

There is a regular preparation known as stock dip which can be procured at any large pharmacy that will kill ticks. It is not expensive. Crude oil is not satisfactory. The oil dip is often used.

Tuberculosis in Cows.

What are the indications of tuberculosis in milch cows? And can any one make a scientific test, or does it take an expert?—A Sub.

In the early stages it is not detected, except by the use of the tuberculin test. Later the decline of the cow takes place. It grows thin and out of condition, having standing hair. A husky, soft cough when the cow begins to eat; quick, short breathing when hurried into a quick walk. The tuberculin test is simple, but the temperature must be taken accurately and the matter understood. The rise of temperature must be within definite lines, otherwise the cows may be condemned for other troubles. The Experiment Station at Berkeley will send a man competent to test and furnish the tuberculin, if the farmers or dairy men will form a group and give their time to be instructed in the practical use of the test. In turn, this group of men must agree to teach other groups.—M. E. S.

Horse Beans.

Please let me know through the Cultivator when to plant horse beans, how far apart and where I can get the beans.

We find many things in the Cultivator that its worth the price of paper.—J. W. S., Morgan Hill.

Horse beans or, as they are usually called, the English Windsor or broad Windsor, may be planted at once a foot apart and rows three feet apart. They were formerly considered only as horse food, but improvement has made them sought for table use. The seed may be had of seedmen advertising in the California Cultivator.

"Clabber Milk."

I have a cow that gives clabber milk once in a while. She eats hearty. She freshened last June; has not been bred. She has alfalfa hay, bran night and morning; plenty of fresh, clean water. The milk will be all right when we start to milk her, then the milk gets thick and a long piece as long as an inch will be like clabber.—W. R.

In these cases where the udder does not seem to be inflamed, the cause of clabbering of the milk is usually from bacterial infection. Does this cow stand in water or mud? If she does that is probablly the source of the trouble. Give her a pound of epsom salts every other night, until trouble passes away. Are you sure the trouble does not come after the milk is in the pail? If this milk has been in the pail at all, the milk may leave its infection behind it. Please wash them all out with lime water and see if it will not help.—M. E. S.

Lumpy Jaw.

I have a heifer five months old in perfect health otherwise, but with a lump beginning to show about where "lump-jaw" makes its appearance. Can you tell me the symptoms of that disease, and if there is a cure?—C. I. C.

Swelling or enlargement of the jaw bone, either upper or lower, usually attached to bone and skin soft areas appear and usually break. Teeth may loosen and be pushed out of place.

Veterinary Instruments, Black Leg and Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

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rth of pickles and oil this year.

Treatment: This has been until recently almost entirely surgical. When the tumors are external and attached to soft parts only, and early removal may lead to recovery. This, of course, can only be undertaken by a trained veterinarian, especially as the various parts of the head and neck contain important vessels, nerves and ducts which should be injured as little as possible in any operation. Unless the tumor is completely removed it will reappear. Disease of the jawbones is at best a very serious matter, and treatment is likely to be of no avail.

The iodide of potassium is given in doses of one and one-half to two and one-half drams once a day, dissolved in water and administered as a drench. The dose should vary somewhat with the size of the animal and with the effects that are produced. If the dose is sufficiently large, there appears signs of iodism in the course of a week or a few days. The skin becomes scurfy, there is weeping from the eyes, catarrh of the nose and loss of appetite. When these symptoms appear the medicine may be suspended for a few days and afterwards resumed in the same dose. The cure requires from three to six weeks' treatment. Some animals do not improve under treatment with iodide of potassium, and these are generally the ones which show no signs of iodism.

If there is no sign of improvement after the animals have been treated four or five weeks, and the medicine has been given in as large doses as appear desirable, it is an indication that the particular animal is not susceptible to the curative effects of the drug, and the treatment may therefore be abandoned.

It is not, however, advisable to administer iodide of potassium to milch cows, as it will considerably reduce the milk secretion or stop it altogether. Furthermore, a great part of the drug is excreted through the milk, making the milk unfit for use. It should not be given to animals in advanced pregnancy, as there is danger of producing abortion.

Raising Orange Trees.

I would like to know through the columns of your valuable paper, time of year to plant seed for raising orange trees, and if the soil in which the seed is planted should have fertilizer mixed with it. Also how deep to plant the seed.—F. E. B., Lake View.

See Mr. Mills' article on this subject on page 74 of issue of Jan. 16.

Farming By Machinery.

Please give information regarding farming by machinery.—Joseph C. Sherwin, Greenfield.

Well, that's a long subject, and cannot be handled in this department. It is, however, a valuable suggestion and will call for consideration in other departments later.

Cabbage Lice.

How can I kill lice on cabbage?—C. A. R., Los Angeles.

See vegetable department this issue; also Prof. Woodworth's article in issue of Jan. 23.

Sweet Potatoes.

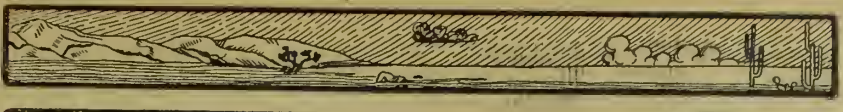
In what manner should a person plant sweet potatoes to obtain the best plants for transplanting? How should the plants be planted and when?—J. E. Thorp, Stockton.

See Mr. Lobingier's article in issue of Jan. 2; also two communications which will appear in the vegetable department of next week's issue. They give the plan as followed in Merced county.

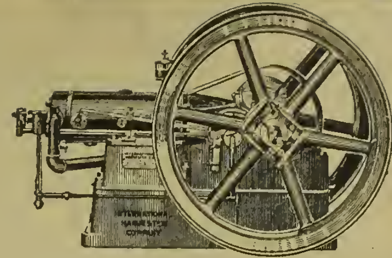
Fumigation.

Will you kindly give me the best formula for a fumigation that will kill the purple scale.—Also can you give information where second-hand fumigation tents may be obtained.—Subscriber, Anaheim.

See Mr. Pease's article on fumigation in next week's issue of the Cultivator for methods of work. As to securing second-hand tents, they should be purchased with caution. Successful work is only done with tents which retain all or a large part of the gas. New tight tents are best.



The
GREAT AMERICAN DESERT *is* DISAPPEARING



THE great ranges are fast being taken up by individual settlers, and thousands of prosperous farmers are taking the place of the few cattle kings that were monarchs of the ranges a score of years ago.

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Household Department

"JUST MY LUCK."

"That's just my luck," said pessimist Bill,
When his wagon stuck on the side of the hill.
He was half asleep and he did not see
The rut in the road by the old oak tree.
Had Bill been alert with his load of truck
He never would have said, "That's just my luck."

When his cow was killed by an old freight train,
"Thats just my luck, said poor Bill again.
Now the fact is this: there's a broken gate
That Bill failed to fix till it was too late,
And so the old cow with an old cow's pluck
Strayed off to the track just to bring Bill luck.

One wild windy night Bill's big barn was burned—
"That's just my luck, well I'll be durned."
Yes, Bill would swear, but here is the joke,
That Bill's cob pipe was the cause of the smoke.
Whatever we sow we are bound to pluck,
Then like Bill we cry: "That's just my luck."

—American Farmer.

JOSEPHINE'S FATHER.

THE old man frowned.

"Pooh, pooh. The passing preference of the girl of today isn't worthy of any consideration whatever. Yesterday it was dolls; today it is Teddy bears. Sometimes it is lap dogs. Sometimes it's beaux. I suppose my daughter thinks she is fond of you?"

"Yes, sir."

"Just what I expected. You train a girl up in the way she should go and when she's old enough she'll run away with the first smug-faced, rattle-brain that happens along."

The young man involuntarily ran his hand over his chin.

"Do—do you object to my face, sir?"

The old man faintly chuckled.

"I wasn't referring to you personally," he explained. "I'm merely describing the type. Come, let's hear what you have to say. I make it a point never to condemn a man until he's had the chance to defend himself. Go ahead.

"Thank you, sir. I am 26 years old, physically sound and of good habits. I enjoy an excellent income and my father has promised me a house and lot when I marry."

The old man nodded.

"That sounds good," he said. "But what about your family?"

"Oh, you mean during war time. I think we did our share. We had two uncles and three cousins in the civil war and father would have gone to the front in the war with Spain, but mother wouldn't let him."

"When I spoke, I didn't allude to the civil war, sir. The country was rich and powerful then. I refer to the time when it was poor and weak. There was no particular credit in going to the front in the war with the South. So many people went that no one had a chance to feel lonesome. No, sir, I refer to the ever-glorious war with Great Britain, sir, in 1776 and 1812. Do you know what happened on the 10th day of September?"

The young man felt uncomfortable.

"My birthday! Certainly not!"

"I refer to the battle of Lake Erie, sir."

"Oh, yes, the we-have-met-the-enemy battle?"

"Yes. And who do you suppose was there, sir?"

The young man drew a long breath.

"It was Commodore Perry, wasn't it, sir?"

"Commodore Perry. It was my grandfather."

The young man nodded pleasantly.

"Was Commodore Perry your grandfather, sir?"

The old man was speechless for a moment.

"Commodore Perry was not my grandfather—nor my grandmother, either—nor even my uncle Benjamin. Listen to me, young man. My grandfather was at Put-in-Bay."

He uttered the last words impressively and glared at the young man as if to be sure that this momentous fact impressed him properly.

But the unhappy youth was much confused.

"They say it's a fine place for Sunday school picnicks."

"Sunday school picnicks!" cried the old man. "This was no Sunday school picnic. My grandfather, Horatio Gregg, was an active participant in the great sea fight. He told me he was there. He said: 'I was in the fight at Put-in-Bay.' He was old and feeble when he said it. He had lived for many years with my Uncle Hower in Australia. His memory was quite gone, but he hadn't forgotten Perry and Put-in-Bay." He paused and drew a long breath. "And now, sir," he said, "you will understand why we Greggs are a pround race. We stood by our native land in her time of direst need. Can your family match this record?"

The young man shook his head.

"I'm afraid not, sir. One of my grandfathers was a clergeman, sir, and the other was a physician."

The old man waved his hand as if dismissing an audience.

"Then, sir," he solemnly remarked, "you must give up all thoughts of marrying Josephine. The Greggs have too much pride to ally themselves with a family whose patriotic sacrifices date back only to the civil war. Look up your forefathers, sir, and if you find anything report to me promptly. Good afternoon."

"Good afternoon," said the younger man.

The young man went away feeling blue. He had dreaded this necessary interview, and now it had turned out much worse than he expected.

He found Josephine—waiting for him on the side porch.

She read his face as he came near.

"Well?" she said.

"Bad," he answered.

"Did you approach father as I told you?"

"There was very little approach about it. He met me more than half way and bowled me over."

"I'm afraid you blundered."

"No, I didn't. I didn't have time." He frowned at her. Why didn't you tell me about the battle of Lake Erie?"

"Dear me, did he mention that?"

"Did he mention it! why, he pretty nearly fought it all over again. Because I didn't have a grandfather there I'm going to lose you. I know what I'll do—I'll consult a lawyer."

* * *

The old man looked up from his writing.

"How are you, Stewart?" he sai as he waved his hand towards chair. "We don't see much of yo of late? You musn't let that littl disagreement stand in the way of our continued friendship, my boy."

"Thank you, Mr. Gregg." He hesitated. "I am here on a somewha peculiar errand, sir. If you remember our talk last month, you will recall that you advised me to look u the records. I have done so, sir, an the result in one instance is somewhat surprising." He paused an drew the big envelope from his inne pocket. "May I read this communication, sir? It is quite brief."

"Does it concern me?"

"It—it may interest you, sir."

"Read it."

George slowly unfolded the parchment-like sheet.

"Office of the British Admiralt Bureau of Naval Enrollments, No. 1 Curzon street, London—Sir: You esteemed favor of the 27th ult, ha been passed upon and duly certifie to this department. In answer t your request concerning the enrollment of one Horatio Gregg, possibl in the service of H. B. M. during th conflict between Great Britain an the United States, sometimes calle the war of 1812, I have the honor t

Martha Washington

COMFORT SHOES

Thousands of women thoroughly enjoy the genuine relief and comfort of Martha Washington Comfort Shoes. They fit like a glove and feel as easy as a stocking. No bother about buttons or laces; they just slip on and off at will. Elastic at the sides prevents pinching or squeezing, and "gives" with every movement of the foot. Absolute comfort guaranteed.

Your dealer will supply you; if not, write to us. Look for the name and Trade Mark on the sole.

FREE: Send the name of a dealer who does not handle Martha Washington Comfort Shoes, and we will send you free, postpaid, a beautiful picture of Martha Washington, size 15x20.

We also make the stylish "Leading Lady Shoes."

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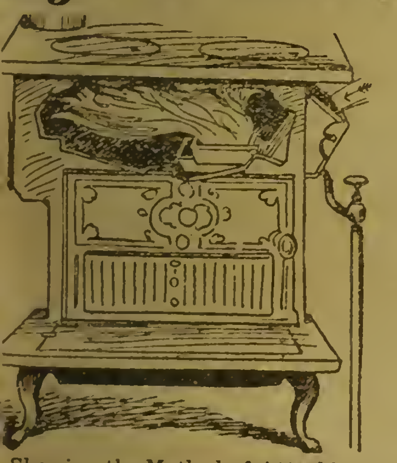
Iague Domestic Oil Burner



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device for using low grade distillate. ves 40 per cent of cost of coal or city s—let us prove it. Write for circular.

Iague Domestic Oil Burner Co.
4 Winston St. *Los Angeles, Cal*

FEED CUTTERS
HAND AND POWER
All Sizes, Best Makes, Lowest Prices. Agents Wanted
Write for Catalog
Arnott & Company,
112-18 S. Los Angeles St.
Los Angeles, Cal.

inform you that the records of this office disclose the fact that one H. Gregg was enrolled as a member of the crew of his British majesty's ship Detroit, Captain Barclay commanding. With every consideration of esteem I am yours to command, Ponsonby-Hawkins, Secretary."

The old man stared at George.

"Let me see that letter," he said.

George handed it to him.

"It would appear," he slowly said, "that my estimable grandfather was on the other side. I begin to believe he wasn't there at all." He spoke a little sharply. "Of course, this musn't go any farther," he said.

"No," said George.

The old man deliberately tore the letter into little bits and tossed them into the wastebasket.

"How about Josephine?" George promptly asked.

"I'll leave that to Josephine. If she wants you, I have no objection."

"Thank you," said George, and was off like a shot.

He found Josephine waiting for him on the side porch.

She looked up anxiously.

"Well?" she said.

"I have met the enemy," George softly chanted, "and you are mine."—W. R. Rose in the Cleveland Plain Dealer.

"NO GULF OF MUTE SPACE."

The thousand soft voices of the earth have truly found their way to me—the small rustle in tufts of grass, the silky swish of leaves, the buzz of insects, the hum of bees in blossoms I have plucked, the flutter of a bird's wing after his bath, and the slender rippling vibration of water ruuning over pebbles. Once having been felt, these loved voices rustle, buzz, hum, flutter and ripple in my thought forever, an undying part of happy memories.

Between my experiences and the experiences of others there is no gulf of mute space which I may not bridge For I have endlessly varied instructive contacts with all the world, with life, with the atmosphere whose radiant activity enfolds us all. The thrilling energy of the all-encasing air is warm and rapturous. Heat-waves and sound-waves play upon my face in infinite variety and combination, until I am able to surmise what must be the myriad sounds that my senseless ears have not heard.—From Helen Keller's "Sense and Sensibility" in the February Century.

LACQUER FOR BRASS.

Here is a very good recipe for lacquer for brass: Put into a quart jar an ounce of pale shellac, an eighth of an ounce of cape aloes, an eighth of an ounce of powdered gamboge and a pint of alcohol. When this is dissolved strain through cheesecloth. The brass must be perfectly clean and, if possible, slightly warm. Apply with a soft varnish brush.

THE CENTURY.

The February Century brings the first of the promised papers on Egypt, the text by Robert Hichens, the illustrations, in color, by Jules Guerin—author and artist having visited Egypt specially to gather material for this feature. Both have caught and portrayed with rare sympathy of feeling the color, picturesqueness, wonder and mystery of Egypt's ancient monuments.

This issue, too, contains the first of Helen Keller's new essays, entitled "Sense and Sensibility," almost a song of thanksgiving for the wonderful experiences and emotions which are hers through her three senses, and written with much grace and charm of style.

Among other strong features of a strong number is Charles H. Caffin's discussion of "Progress in Photography," with special reference to the work of Eduard J. Steichen and reproductions of Mr. Steichen's interesting portraits of Maeterlinck, Rodin, Duse, Richard Strauss and William M. Chase.

By the side of tombs only kind and courteous words are spoken; let us treat our friends like tombs.

It is so good to be beautiful and so beautiful to be good that it is a sad mistake not to be the one by sheer force of being the other.

What is called luck or fortune, is only the gift of recognizing when the hour strikes, or not taking the hand from the plow until the Angelus sounds.—By the Queen of Roumania.

Malthoid Roofing

Malthoid is the real, original article—made by the original makers of ready roofings. 23 years of practical roofing experience goes into every roll.

Malthoid always makes good.

The Paraffine Paint Co. San Francisco California
E. J. Judah, General Representative, Security Bldg, Los Angeles

Now is the time to go for gophers with

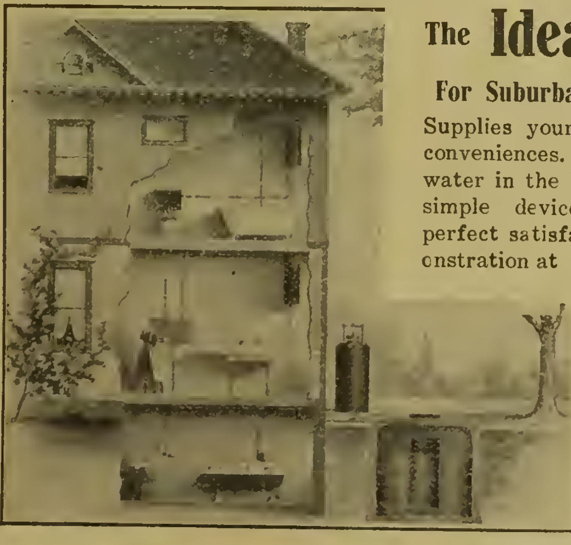
Bille's Gopher Poison

The Gophers go for it and it will go for them good and plenty every time

This is a photo of 201 killed in one day on a ten-acre field before they could get back to their holes, with one bottle of BILLE'S COPHER POISON.

Endorsed by Agricultural Colleges and Experiment Stations. Has had greatest success for years in the Middle West, and also here in California last season. It is most attractive to gophers, squirrels, etc, and sure death to them. One among many, Amos. L. Grigsby, Campo, Cal., writes: "I have given it a good test, have used all of the two bottles and have almost exterminated the gophers in my 22-acre tract of alfalfa. You know how thick they can get in alfalfa that is not irrigated. Enclosed find $2.50. Send me two more bottles." If your dealer hasn't it, send $2.50 for 2 bottles (not less than two) express prepaid by us. The ingredients can't be bought at a drug store for that price. Money refunded if not as represented—so printed on the bottle. Anyway send for circular with affidavit of above killing and a few of many testimonials. Compounded Under Bille's Patent by

West Coast Stock Food Co. 818 San Fernando St. (tnrough to Alameda) Los Angeles, California
Manufacturers of the celebrated *West Coast Poultry Foods*



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Supplies your home with all modern conveniences. Gives you hot and cold water in the barn and dairy. A very simple device. Guaranteed to give perfect satisfaction. Call and see demonstration at

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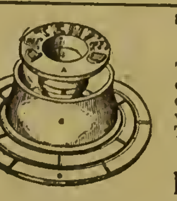

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LINERS

Liner Advertising

Advertisements in Liner Column 1½ cents per word. Eight words to a line. No advertisement taken for less than 25 cents.

TREES.

20,000 SEEDLING AND GRAFTED WALnuts, fruit, ornamental trees, palms, roses. A thrifty, well grown stock. A. R. MARSHALL, nurseryman, sales yard cor. Third and Main streets, Santa Ana, Cal.

WALNUT TREES—5000 VERY FINE, LARGE seedlings. Seed selected from original Placentia Perfection grafted trees. Free from disease. Lowest prices. G. W. SHERWOOD, Fullerton, Cal.

BUDDED ORANGE TREES, VALENCIA and navel 2-year-old buds, clean and thrifty stock. Address F. E. CHAPMAN, R. F. D., box 34, Pasadena, Cal.

FOR SALE—SPECIAL PRICES ON 1300 Santa Barbara softshell walnut trees. W. R. CARPENTER'S ranch, Placenta, Cal.

FOR SALE—100,000 BLUE GUMS (FINE plants.) Address L. Z. HUNTINGTON, Anaheim, Cal.

EGGS FOR HATCHING.

FOR SALE—VERY REASONABLE, EGGS for hatching; Barred Plymouth Rocks, Illinois and Arrowhead strains; Buff Orpingtons, fine layers, solid colors; S. C. White Leghorns, McFarland strain. Also White Embdem geese for sale—winners of 2 firsts, 3 seconds, 4 thirds at Poultry Breeders' Show, Jan., 1908. Member of Poultry Breeders' Association. MRS. LINCOLN NICHOLSON, box 47, Gardena, Cal. Home phone 104.

EGGS FROM MY PRIZE WINNING BARred Rocks; won all firsts, all seconds but one, and all specials on Barred Rocks at L. A. C. P. A. Show, 1907. Eggs from best pens, $3 per 15; $12.50 per 100. Stock for sale. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

WHITE LEGHORNS (HOWARD STRAIN). W. Wyandottes (Hubbard strain) Eggs; Leghorns, $5 per $100; Wyandottes, $7. Baby chicks FROM BRED TO LAY STOCK SHIPPED anywhere. Ranch 2 blocks from car. F. T. McLAUGHLIN, Gardena.

RAISE POULTRY—IT PAYS—ORDER your White Leghorn and Wyandotte eggs now. Also Incubator Chicks, thoroughbreds. Prices right. The SAN GAGRIEL POULTRY FARM, San Gabriel, Cal.

FOR SALE—WHITE LEGHORN EGGS FOR hatching. $4.50 per hundred. Also Indian Runner ducks. F. J. SALTER, Ceres, Cal.

EGGS FROM THOROUGHBRED BARRED Plymouth Rocks, $2.00 per 13. MAX JENNEY, 6526 Pollard St., Los Angeles, Cal.

S. C. BLACK MINORCAS—EGGS FROM special standard matings, $2 per setting. From good utility stock, $5 per 100. S. D. BICKFORD, Gardena, Cal.

COLUMBIA WYANDOTTE EGGS—EGGS for hatching from thoroughbred birds; terms reasonable.—R. C. CASAD, Covina, Cal.

POULTRY

WHITE WYANDOTTES—"CREAM OF THE Coast" strain—the 200-per-year kind. Barred Plymouth Rocks, my "Blue Diamond" strain, are great winter layers of big, brown eggs. No incubator lots furnished. Eggs per 13, after Jan. 1, carefully packed, $1.50. Address WILLIAM C. PARKER, 111 Pacific avenue, Santa Cruz, Cal.

WHITE PLYMOUTH ROCKS EXCLUSIVEly. The largest flock of prize winning birds in the West. At the late Los Angeles show, 1907, we won twenty-three out of a possible twenty-five prizes. We offer extra bargains in our this year's breeders. Will sell to suit purchaser. Eggs $2.50 per 15; $10 per 100. A. J. LITTLE, Monrovia, Cal.

BRONZE TURKEYS AND BARRED Rocks a specialty. Are noted for size and hardiness; all birds sold that I can spare. Fertility guaranteed. Am booking orders for eggs for hatching. Turkey eggs, $5.00 setting; Barred Rocks, $3.00 setting. Address, A. H. BLAKELY, rd No. 2, Ontario, Cal.

BLUE ANDALUSIANS. WON ALL PRIZES at Los Angeles County Show, 1907. A few good trios and pens; also good breeding cockerels; eggs for hatching. $2 and $2.50; no better stock anywhere. MRS. T. R. GRIFFITH, 3111 Walton ave., Los Angeles, Cal.

ALTADENA ORPINGTON FARM—MATSON Hayden, Box 1001, Pasadena. Golden Buffs exclusively; fine male birds a specialty. Settings $10.00 and $5.00. Five winnings at show in Los Angeles, 1908. Satisfaction guaranteed.

S. C. WHITE LEGHORNS—I HAVE 35 hens and 2 cocks 19 months old selected breeders hatched from Howard's best pens. I will sell the lot for $70 or 17 hens and 1 cock for $35. CLYDE J. MOSS, Corona, Cal.

BUFF ORPINGTON DUCKS, THE GREAT commercial bird; good for market; great layers. Eggs now $3.00 per 12; $5.00 per 26 from our imported English blue ribbon strain. GOODACRE BROS., Compton, Cal.

PARTRIDGE WYANDOTTES—C. ANdrews, 823 W. Franklin Ave., Hollywood, Cal.—1st cock, hen, cockerel and pullet; 2 cups, Poultry Breeders' Show, 1908.

FOR SALE—2 EXTRA FINE SILVER laced Wyandotte roosters, 1 year old; $5 each, freight prepaid. A. WOOD, Box 38, Greenfield Cal.

FOR SALE—MAMMOTH BRONZE TURkey hens, $2.00 each if bought in lots of ten. Address, Mrs. W. B. RICHARDS, Holtville, Cal.

FOR SALE—PRIZE PARTRIDGE WYANdotte cockerels; all prize winners; from $10 to $25. C. L. HOGUE, San Gabriel, Cal.

HORSES.

FOR SALE — OR TRADE FOR COWS, 3 good brood mares, ages 12, 10 and 5 years;. Will sell cheap, as I have no use for them; also a good ranch for sale on easy terms, and one O. K. hay press. Address C. E. GARRETT, Hynes, Cal.

PHEASANTS.

"PHEASANT FARMING," ILLUSTRATED, 25c. Tells how to raise pheasants. Birds and eggs for sale. SIMPSON'S PHEASANT FARM, Box C247, Corvallis, Oregon.

MISCELLANEOUS.

DELMONICO'S CHEF SAYS: "THE ANchor egg separator works perfectly; no well regulated hotel or household can afford to be without it." Send ten cents, or ten names of persons keeping poultry, and we will send one postpaid. WEST COAST MILL, 818 San Fernando St., Los Angeles, Cal.

EXTRA HIGHGRADE CHILIAN WATERmelon seed. White or red; sixty cents per pound. Fancy pineapple cantaloupe seed, 80 cents per pound by express. Mail fifteen cents additional—no culls. S. FAIRBURN, Burbank, Cal.

ALL KINDS OF TREE AND VINE PRUNing (top,) grafting, budding, and yard work done. Your patronage is solicited. Address M. A. WALLACE, Station M, Los Angeles.

WANTED—Half A DOZEN FUMIGATION tents. Give price. P. E. FOLSOM, Anaheim, Cal.

BERRY PLANTS.

SIX HUNDRED THOUSAND STRAWBERry plants for sale—Klondike, Excelsior, Enhance A1 and Texas, $2.00 per thousand; Arizona, $3.00 per thousand, f. o. b. Gardena, (after February 10th all plants will be $1.00 per thousand more.) Address D. P. DUNCAN, Gardena, Cal.

TWENTY-FIVE EACH OF LUCRETIA dewberry, Cuthbert raspberry, Mammoth blackberry, Logan berry and 250 strawberry plants, also several kinds of berries and an acacia tree all prepaid for $2.50; strawberry plants at $3.00 per 1000 prepaid. Larger lots at $2.75. TRIBBLE BROS., Elk Grove, Cal.

FOR SALE—MAMMOTH BLACKBERRY, 100, $3; 1000, $25; Himalaya Giant blackberry, 100, $4.50; 1000, $35. Express prepaid to California points, ADELBERT COOLEY, Laton, Cal.

WANTED—ONE-YEAR OLD LOGANBERry plants. Address P. O. BOX 2697, Fresno, California.

FOR SALE—3000 CRANDALL'S BLACKberries, fine plants at $10 per 1000. 1000 grafted field grown roses all the standard sorts at $15 per 100—the strongest rooted stock ever offered. H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

MACHINERY.

FOR SALE—22-H. P. FOOS GASOLINE engine as good as new. No further use for same. N. W. cor MAIN AND BRUNO STS., Los Angeles, Cal.

FOR SALE—35-H. P. WESTCOAST ENgine just overhauled; the equal of new and fully guaranteed. WAITE BAILIE & CO., Los Angeles.

FOR SALE—IN A-1 CONDITION AT A bargain 40-H. P. Fairbanks-Morse distillate engine. 943 N. MAIN ST., Los Angeles, Cal.

ARTICHOKES.

FOR SALE—JERUSALUM ARTICHOKES—The great winter hog feed. Address FANCHER CREEK NURSERIES, Fresno, California.

FARM LANDS FOR SALE.

FOR SALE—1 to 10-acre tracts on car line between Riverside and new cement works. Good for chicken ranches, alfalfa or gardening. Will sell on easy terms. Plenty of water on each tract. C. C. POND & N. R. BELL, Riverside, Cal.

FOR SALE—160 ACRES FINE FOR ALfalfa and fruit; 3 miles north of Delano, Tulare county on main line S. P.; plenty of water. Price $25; must have ½ cash. JOHN RUPP, 525 S. Spring St., Los Angeles.

FOR SALE—40 ACRES, LEVEL; FINE for chickens, vegetables, berries, etc., $30 per acre; a bargain. WM. MANTZ, Santa Maria, Cal.

GRAPE CUTTINGS WANTED.

WANTED—CUTTINGS OF THE FOLLOWing for grafting purposes: Rupestris St. George, Riparia x Rupestris 3306, Riparia x Rupestris 3309, Riparia x Rupestris 106-8 and Mourvedre x Rupestris 1202. Address FANCHER CREEK NURSERIES, Fresno, California.

POTATOES.

SWEET POTATOES FOR SALE—50 SACKS small sweet potatoes suitable for seed. $1.50 per sack in 5-sack lots or over. F. O. B. Anaheim. H. E. HUNT, Anaheim, Cal.

FOR SALE—YELLOW SWEET POTATO seed, 2½ cents per pound. E. G. METCALF, Phone Home Black 31, El Monte, Cal.

CATTLE.

FOR SALE—A THOROUGHBRED JERSEY heifer 9 months old. Inquire CALIFORNIA CULTIVATOR or FRANK DOUGLAS, Hollywood.

LOAN WANTED.

LOAN OF $2000 ON 52 ACRES TO FURTHer improve. Raisins pay 7 per cent net. Safe. BOX 81, Armona, Kings Co., Cal.

The Curtis Silk Farms will soon move their silk worm cocoonery from the temporary quarters, corner Buena Vista St. and Solano Ave., Los Angeles, to their farm in the San Gabriel valley. Further cultures will be made on the Farm where they have a thrifty mulberry grove to furnish fodder for the ravenous army of silk spinners.

H. Boyersdorfer, of the H. Boyersdorfer & Co., florists supply house of Philadelphia, is looking up the florists of the Pacific Coast.

Cattlemen in sections in Fresno last week voted to use money in improving the range roads and bridges. It is rumored that the Forest Bureau may prohibit the grazing of sheep on public ranges after this year.

The Produce Markets

Los Angeles Markets

LOS ANGELES, Feb. 5, 1908.

Butter.

The butter market is firmer, but at greatly reduced quotations from last week. Local creamery extra and Eastern have been marked down ten and five cents per roll since last quotation. Seconds and lower grades remain much the same as last week The rains with the better feed will soon cause a still lower quotation.

Creamery ex per roll	.60
Firsts	.55
Dairy	.45
Cooking	.45@47
Eastern	.50@55
"Butterine"	.15@20

Cheese.

Cal Young America per lb	.20½
Hand	.20½
California Anchor	19
Northern fresh	.17
Eastern singles	.19
Imported Swiss	.32
Tulare flats	.18½
Domestic Swiss	.21@22
Oregon	.18

Eggs and Poultry.

Eggs have declined, notwithstanding the cold and rain have prevented heavy deliveries. At the reduced quotations the market is very firm and sales readily made at full prices.

Eggs local candled	.24@25
Eggs case count	.22½
Eastern storage	.17@18
Firsts	.15
Seconds	.8@12
Hens per lb	.14
Young roosters per lb	.15
Fryers	.18@20
Broilers per lb	.21@22
Old roosters	.8
Turkeys	.15½
Geese	.13
Ducks	.14
Squabs	1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds	.6
Prime steers	.4½
Heifers	.4
Calves per lb	.4½@5
Sheep ewes per head	.4.75
Lambs per head	.3.75@4.25
Wethers	.5.50

Potatoes.

Highlands	.1.00@1.25
Early Rose	.1.75@1.95
Salinas	.1.75@1.85
Sweet potatoes per sack	.3.50
Oregons	.1.25@1.50
Idaho	.1.25

Onions.

Australian Browns	.3.00@3.50
Oregons	.3.30@3.50
Minnesota	.3.00@3.50
Garlic	.10

Vegetables.

Artichokes per doz	.75@1.00
do Jerusalem box	.75
Beets per doz	.25@35
Bell peppers per lb	.14@15
Beans limas per lb	.10@12
Beans green	.14@15
Brussels sprouts per lb	.6½@7
Cabbage sack	.25
Celery per crate	.2.00@2.25
Chili peppers per lb	.8@10
Cucumbers per doz	.1.25@1.75
Cauliflower	.40
Carrots per doz	.30
Egg plant	.10
Green onions doz bunches	.20@30
Hubbard squash per lb	.1@1½
Lettuce per crate	.40@50
Pie Pumpkins	.1½
Peas sugar per lb	.5
Parsley	.30
Parsnips	.35@40
Rhubarb per box	.1.00
Radishes per doz	.15@20
Salsify	.30
Spinach per doz	.10@25
Squash crate	.1.00
Turnips doz bunches	.40
Tomatoes per box	.1.75@2.00

Citrus Fruits.

Navels fy	.1.60@1.75
Navels ch	.1.25@1.50
Tangerines	.1.50
Culls	.75@90
Grapefruit seedless	.2.50@3.00
Grapefruit seedlings	.1.75@2.00
Lemons fancy	.1.25@1.50
Lemons choice	.1.00@1.25

Fresh Fruits.

Bellefluers	.1.90@2.00
Baldwins	.1.25@1.50
Pippins 4-tier	.1.50
Gravenstein	.1.50
Alexandria	.1.00@1.50
W W Pearmains	.1.75
Colorado Jonathans	.3.50
Guavas	.6@8
Loquats per 4-basket crate	.3.00
Winter Nellis per lb	.7
Pomegranates per lb	.7
Persimmons	.6
Quinces	.1.25
Raspberries	.15@20
Strawberries	.8@10

Dried Fruits.

Apricots	.18@22
Evap apples fy per lb	.11@12
Figs loose	.7
Peaches	.12@13
Pears	.12½@13
Nectarines	.16
Prunes	.3½@5½
Plums	.11½@13

Beans Dried.

Limas per ctl	.5.20
Pink No 1	.3.65
Lady Washington	.3.75@3.95
Small White	.3.75@3.85
Black eyes	.5.00
Garvanzas	.5.25@5.75
Lentils	.12@12½

Nuts.

Almonds per lb	.17½
Pecans polished	.16@17
Peanuts Virgina	.8½
Peanuts California	.8½
Walnuts No. 1 SS	.17

Honey.

Extracted Water White	.6@7
Comb W W	.11@13½

Hay.

Barley No 1	.14.00@16.00
Barley No 2	.11.00@13.00
Alfalfa northern per ton	.14.00
Alfalfa new local	.15.00@17.00
Plain Oat No 1 new	.17.00
Wheat No 1	.16.00
Wheat No 2	.11.00

Grain.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl	.1.85
Wheat in 100-lb. sacks	.1.90
Barley	.1.50
Corn Eastern sacked	.1.80
White oats	.1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn	.1.85
Shorts	.60@1.65
Bran	.1.50
Oil cake meal	.2.50
Feed meal	.1.90
Rolled barley	.1.65

San Francisco Markets

SAN FRANCISCO, Feb. 4, 1908.

Butter.

Butter has declined materially during the week, and the receipts are now heavy, with market not as strong as before the rains. Buyers are holding off expecting still heavier decline.

California extras per lb	.27½
California firsts	.2
California seconds	.22
Eastern extras	.23
Storage Cal ex	.23

Cheese.

California young American fy	.14½
California flats fy	.14
Eastern fy	.17
Oregon fancy	.1

Eggs and Poultry.

Eggs have declined only a half ce on extras this week, all other grad remaining as quoted last week. Th market is firm; in fact, some holde of eggs are demanding a cent and half to two cents in advance of quo ations.

Fresh ranch eggs	.2
Eggs firsts per doz	.22
Eggs seconds per doz	.2
Storage Cal Extra	.17
Eastern selected	.1
Eastern firsts	.1

There is almost no local poultry i the market, but Eastern is coming i in large quantity.

Hens per doz	.4.50@6.00
Hens extra	.6.00@7.00
Young roosters	.6.00@6
Old roosters	.4.00@4
Fryers per doz	.5.00@6
Broilers per doz	.4.00@5
Geese per pair	.2.00@
Ducks young	.4.00@6
Turkeys per lb	.15@16
Pigeons	.1.00@1.25

Live Stock.

Steers No 1	.8¼
Do second quality	.7½@
No. 1 cows and heifers	.6¼@
Hogs 80 to 200 lbs	.5¾@
Hogs 200 to 300 lbs	.5
Calves per lb	.4@5
Lambs	.6
Wethers No 1	.5
Ewes No 1	.5@5

Potatoes.

River Whites	75@85
Oregon Burbanks	75@1.00
Lompocs	1.30@1.40
Early Rose	1.10@1.30
River Reds	1.35@1.40
Salinas Burbanks	75@1.10
Sweets per crate	2.75@2.85

Vegetables.

Celery per crate	75@1.00
Cucumbers per doz	1.00@1.50
Chili peppers per lb	5@7
Bell peppers per lb	15@17½
Beans Limas	12@15
Egg plant per lb	8@10
Green peas per lb	4@6
Squash per box	50@1.25
Marrowfat squash per sack	60@75
Mushrooms	35@1.00
Hubbard squash per sack	60@80
Rhubarb per box	1.50@1.75
Tomatoes local	2.00@2.50
String beans	12½
Garlic	4@6

Onions.

Lompocs	2.85@3.00
Yellow Danvers	2.75@3.00
Lompocs	2.50@2.75

Citrus Fruits.

Navels fy	2.50
Navels ch	1.25@2.25
Grapefruit seedless	2.50@2.75
Lemons	1.50@2.50
Limes	3.00@4.00

Fresh Fruits.

Newtons	1.50@1.75
Spitzenberg	1.75@2.00
Pears winter Nellis	2.00@2.50
Pomegranates per box	1.00@2.50
Quinces per box	1.00@1.25
Strawberries per ½ crate	1,25@1.50

Dried Fruits.

Apples (evap.)	7¼@9
Apricots per lb new	18@20
Figs white	3½@5
Nectarines	10@13
Plums pitted	12@15
Peaches	9@11
Pears	9@12
Prunes 4 size bag basls	4@4½

Beans Dried.

Limas	4.75@4.90
Pink	3.15@3.25
Small white	3.35@3.50
Large white	3.00@3.10
Lady Washington	3.30@3.45
Black Eyes	3.50@3.75
Red Kidneys	3.25@3.50
Garvanzas	4.00@4.25
Bayo	3.15@3.25
Horse beans	2.25@2.40

Hops.

Hops per lb	6@9
Hops old fancy	2@4

Nuts.

Nonpareil	13½@14
Ne Plus Ultra	12½
Walnuts No 1	13@13½
Hardshells	12@12½

Honey.

lear white comb	16@17
Amber	12@15
Extracted	7½@8
Beeswax No. 1 per lb	26@27
Beeswax No. 2 per lb	23@25

Hay.

Alfalfa local	9.00@13.50
Tame oat choice	11.00@15.00
Wild oat	9.00@12.00
Wheat and oat	11.00@15.50
Wheat choice	16.00@17.50

Grain.

Wheat No 1	1.65@1.70
Barley No 1	1.52½@1.55
orn large yellow	1.60@1.65
ats white	1.55@1.60
ats red	1.75@1.90

Feed Stuff.

Bran per ton	28.00@29.50
Straw per bale	50@85
Feed cornmeal per ton	37.00@37.50
racked corn per ton	37.00@38.00
Rolled barley per ton	30.00@32.00
il cake meal per ton	38.50@40.00
ocoanut cake, per ton	25.00@25.50
Middlings	31.00@32.00

Citrus Market

LOS ANGELES, Feb. 5, 1908.

Oranges have not gone forward rap-lly since the recent storms, and it vas hoped this would correct the sit-iation which had been occasioned by ieavy early shipments, but unfortu-iately, the "spell of weather" in the Cast has more than matched our torm, and nothing could be done in narketing fruits. The blizzard effect-ially shut all car doors and prevented edlers and all other dealers from andling fruits, and the markets have een rather flat. It is hopped it will oon reach normal, and clean up the ars on track.

emons.

Lemons are firm and in good de-iand. The amount of winter cuts are eceived and the shipments keep the iarket well supplied.

hipments.

Total shipments of citrus fruits to ate 5840, of which 1062 were lemons. To same date last year 4873, of which 662 were lemons.

NEW YORK, Feb. 3.—Seventeen navels, four lemons, one Arizona and one budded sold. Market active on navels and from 5 to 10 cents higher. Lemons in good demand. Offerings damaged by frost. Weather clear and cold.

NAVELS—	Avg.
Orchard Nat Or Com	$2.90
Rose Red Or Gr Assn	2.25
Flower Gr Ft Co	2.15
Standard Gr Ft Co	2.00
Rossmoyne T I E M Ross	2.10
Gold Buckle R H Ft Ex	2.50
Iris D M Ft Ex Duarte	2.40
Stag ACG Ft Ex	2.30
Pocahontas TC Ft Ex	2.20
Dos Palmos San Mar Gr Assn	2.15
El Toreador San Mar Gr Assn	1.95
Mariposa Cal Cit U	2.15
Tallyho S B Ft Ex	2.05

ARIZONA—Navels: Desert Brand, boxes average, $2.45; halves, $1.60.

TANGERINES — Flower Growers' Fruit Company, $1.50; Slover Mtn. Growers' Fruit Company, $1.45; Stag, A. C. G. Fruit Ex., $1.30.

LEMONS—	
Corwin xfy W S Corwin	2.55
Rialto Girl Gr Ft Com	2.60
Orchid Atland Ft Co	2.30
XXX C W Leffingwell	2.60

CLEVELAND, Feb. 3.—Market steady. Weather cold. Six cars sold. Eight on track.

NAVELS—	
Black Hawk A H Ft Ex Prenda	2.05
Iris D M Ft Ex Duarte	2.35
Jasmine D M Ft Ex Duarte	1.85
Newsboy R H Ft Ex Red	1.95
Rose Red O Gr Assn	2.40
Mutual Mut Cit Gr Assn	2.10
Troubador T I AH Ft Ex Prenda	3.30

TANGERINEE—Squirrel, half boxes, A. H. Fruit Ex., Prenda, $3.15.

GRAPEFRUIT—Squirrel and Palmtree, A. H. Fruit Ex., Prenda, $2.85; Swan, R. H. Fruit Ex., Redlands, $2.90.

LEMONS—	
Newsboy R H Ft Ex Red	2.00
Canna S B Ft Ex Yerkes Spur	2.50

BOSTON. Feb. 3.—Fourteen cars sold. Twenty-two on track. Weather colder. Market unchanged.

NAVELS—	
Alpha Riv Ft Co	2.40
Pilgrim R J Richardson	2.35
Chess Queen Ely-Gilmore Ft	2.20
Highland Gr Ft Co	2.20
Bishop Ely-Gilmore Ft Co	2.10
Lochinvar R H Ft Ex E High	2.15
Rose Red O G Assn	2.35
Elk Riv Ft Co	2.25

LEMONS—	
Coral S B Ft Ex Yerkes Spur	2.30
Selected N W Blanchard	2.60
Loma Limoneira Co	2.25

PHILADELPHIA, Feb. 3.—Four cars navels and one car lemons sold. Weather cold. Market very strong; 3000boxes Floridas (by rail) sold. The market is higher. Floridas arriving by steamer sold low, were frosted.

NAVELS—	
Teal Cov Ft Ex Cov	1.90
Coral S BFt Ex Yerkes	1.87
Producers Red O P Co	2.85

LEMONS—	
Canna S B Ex Yerkes Spur	2.73

PITTSBURG, Feb. 3.—Market is weak account colder weather.

NAVELS—	
Planet S S Ft Ex Or	1.85
Hiawatha T I T C F Ex Zante	2.10
Serenade TCCFt Ex Sanger	1.85
Full Value TCC Ft Ex Sanger	1.65
Pico S T Ft Ex Whit	2.75
Standard Nat Or Gr Co	2.25
Parrot S A Ft Ex Pom	2.20
Jasmine D F Ex Mon	1.95

THE O. K. ENGINE.

The Ideal Manufacturing Company of Portmouth, Ohio, who are manufacturers of the O. K. engine, has recently established headquarters in Los Angeles at 110-112 North Los Angeles street.

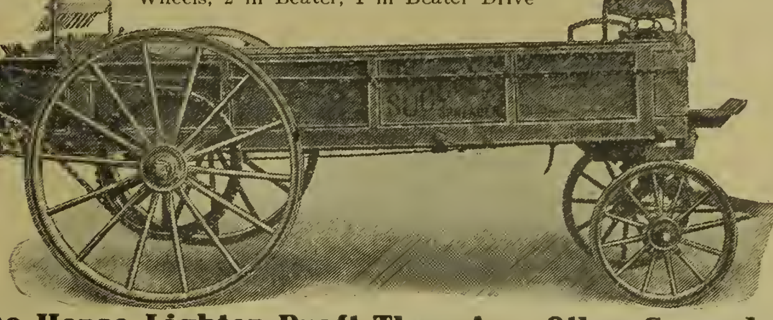
A striking feature of this engine is the simplicity of construction. It is so simple in fact that the inexperienced man who knows practically nothing of engine operation, needs to he shown only once or twice to master its operation. The Messrs. Cartwright & Company, who are the Coast agents, claim it to he the lightest weight engine as well as the most economical in fuel consumption of any engine on the Coast. It can be operated with either gasoline or distillate.

Its lightness enables its heing moved from place to place with perfect ease. It is also adapted to stationary work, such as: Electric lighting, mining, pumping, marine and all kinds of light machine work on the ranch. In other words, it is an all round, high grade engine at a moderate price. The manufacturers guarantee the engine in every particular and proclaim it as their policy to manufacture the very highest grade engine and to sell it exactly as represented. This engine is manufactured in all sizes from 2 to 50-horse power, and the farmer looking for the reliable power, should write the Cartwright Company for particulars of the O. K. Engine.

PILES CURED IN 6 TO 14 DAYS
PAZO OINTMENT is guaranteed to cure any case of Itching, Blind, Bleeding or Protruding Piles in 6 to 14 days or money refunded. 50c

The Success Spreader

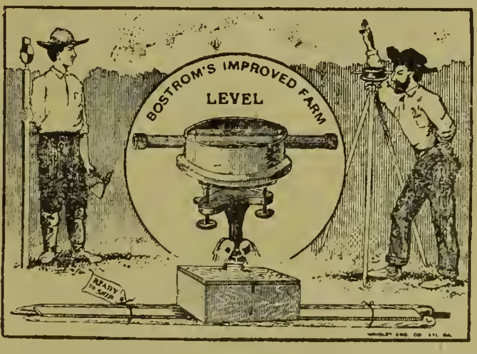
Has 7 Sets of Roller-Bearings. 4 in Wheels, 2 in Beater, 1 in Beater Drive



One Horse Lighter Draft Than Any Other Spreader

Extra strong steel pin chain. direct drive. We discarded gear drive on account of breakages. 2 1-8-inch cold rolled steel rear axle. Narrow front trucks to prevent tongue whipping horses and to make easy turning. Extra strong steel or wooden wheels. Staunchest frame on any spreader. Puts all operating strain on rear axle by steel bracing, none on frame. Apron locks to prevent "racing." Worm apron drive runs in oil. Perfect and easy control, perfect work. It's the result of 29 years' spreader building. Catalogue free.

KEMP & BURPEE MANUFACTURING COMPANY, Syracuse, N. Y.



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Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod $12.50.

PALACE HARDWARE COMPANY
456 Golden Gate Avenue, San Francisco.
Coast Agents. Send for Circular.

100 Pounds of Grapes to the Vine

Raised by Ex-Postmaster Rush Stevens of Sacramento on his ranch with
Tom Lewis' Fertilizer

My Fertilizer is lower in price than other fertilizers and guaranteed to give results. I have hundreds of testimonials. Send for circular and prices.

Tom Lewis, 1916-1918 10th St., Sacramento, Cal.

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The location of our Seventh Colony is 7 to 12 miles south of the City of Bakersfield. It is

Kern Island Land

and only

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You can but down your own well (flowing artesian) or buy water rights from Kern River canal at only $20 an acre.

It is ready for your plow right now and is a wonderful bargain.

Send 5c for Illustrated Booklets, Maps, etc.

California Home Extension Association

267 Chamber of Commerce
Los Angeles, Cal.

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Time for some vegetable planters or flower lovers to begin putting into mother earth our success giving seed.

Time to Begin to Get

Better seed—better results—better sales—better prices—better profits.

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Time to believe that there is a difference in seeds—that the "good-enough," the "just-as-good," and the cheap, inferior kinds do not pay—simply because you can get better results with less money in the long run with Taylor's satisfactory seeds.

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We want you to know about the pronounced superiority and net economy of Taylor's seeds—That much is due you.

Time to Begin——Write us

not only about seeds, but Baby Chicks, Incubators and brooders.

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Baby Chicks

All kinds. Hatching daily. We ship everywhere. Send for price list of chicks and eggs.

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"Champion" Leg Bands 60c per 100, mailed free. Send for poultry supply catalog.
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Here's Your Chance

To buy that little Engine you've always wanted for the ranch.

Peerless Engines

3-H. P., $100
5-H. P., $170
6-H. P., $200

Fully guaranteed. We must have the room to keep our **Alamo** stock complete.

Norton Engine & Power Co.

201-203 No. Los Angeles St.
Los Angeles

Pumped by

The New Pomona Deep Well Pump Head

Pomona Mfg. Co., Pomona

Riverside, Cal., October 8, 1907.

POMONA MANUFACTURING CO., Pomona, Cal.

Gentlemen:—In reply to yours requesting privilege of photographing our pumping plant which you installed for us last spring will say: You are perfectly welcome to take as many photos as you wish, and as our season for pumping is practically over, it may be of interest to you to know something of what we have been doing with it. We have raised forty inches of water about two hundred and fifty feet, delivering it through a six-inch pipe line to our reservoir about one and one-half miles distant from the well. The pump is driven by a forty-horse power electric motor, and our tests have shown the actual horse power used to be twenty-seven horse power. The pump has worked perfectly all through the season and is in perfect condition today. It has come up to all that you represented it and met our every expectation. Should you wish to refer to our plant at any time, you will always find it open for your inspecition. Yours truly,

RIVERSIDE ARTESIA WATER CO.,
By George H. Kelsey, Supt.,

---

110 Miners' Inches Pumped with 20th Century Air Lift. Plant One Mile Away.

20th Century Air Lift System

Is the Latest and Best Method of Deep Well Pumping

San Pedro Water Co. put in the 20th Century Air Lift and secured 56 per cent more water, at the same time reducing the power used from 26 to 23 H. P.

SAN PEDRO WATER COMPANY,
Domestic and Irrigation.
Systems at San Pedro and Wilmington.

Mr. Frank J. Kimball,
No. 622 I. W. Hellman Bldg., Los Angeles, Cal.

Long Beach, Cal., 10-16-07.

Dear Sir:

Replying to your favor of the 15th inst., I take pleasure in certifying to the fact that the two Twentieth Century Air Lifts which you recently installed for us in wells No. 1 and No. 2 at Wilmington, California, have proven very satisfactory, and that the results more than verify your guarantee to produce 25 per cent more water.

Very truly yours, Jean G. Drake, Auditor.

Write for general information and records of tests, designs and specifications for all kinds of power plants. Speciality of irrigation systems.

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Have Stood the Test 14 Years

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Samson Gasoline and Distillate Engines

Are Strong and Durable Fully Guaranteed in every Particular. We make complete Irrigation Outfits.

Samson Centrifugal Pumps Are the Best.

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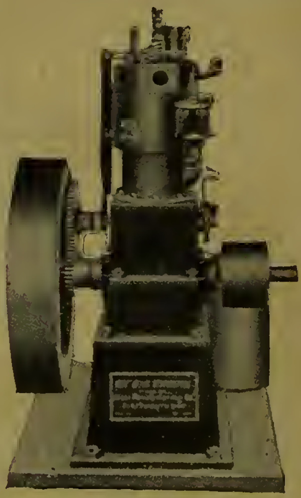

The O K Gasoline Engine

The Newest and Best in the Market

Strictly high grade and guaranteed absolutely.

For All Power Purposes

Made in Vertical and 2-cylinder double opposed from 2 to 50 H. P.

The Most Simple, Economical and Lightest Engine made. Call and see it demonstrated. Then you'll buy the O. K.

Cartwright & Company

Pacific Coast Agents

110-112 North Los Angeles St., Los Angeles, Cal.

Olds Complete Power Spraying Outfit

Equipped with their air-cooled engine, which is a great advantage, making it much lighter and easier to operate. Send for circular and Price List 6802 to

The Compressed Air Machinery Company

Dealers in All Kinds of Machinery

34 to 40 Jessie St., San Francisco

The Callahan Oil Engines

The Highest Grade Made. Won First Prizes at Sacramento and Porterville Fairs. Large Stock always on hand. Send for Pump and Engine Catalogues.

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Main Office, 33 Stevenson St. San Francisco

BRANCHES — Sacramento, Visalia, Portervil

Works: 16 to 30 Jessie Street, 33 to 59 Ecker Street, 27 to 37 Stevenson Street, Ssn Francisco

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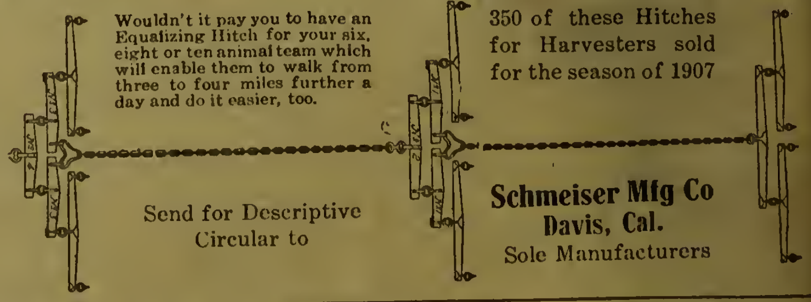
The Schandoney Equalizing Hitch



Wouldn't it pay you to have an Equalizing Hitch for your six, eight or ten animal team which will enable them to walk from three to four miles further a day and do it easier, too.

350 of these Hitches for Harvesters sold for the season of 1907

Send for Descriptive Circular to

Schmeiser Mfg Co
Davis, Cal.
Sole Manufacturers

500,000 FEET OF WATER PIPE

All sizes, Galvanized and Black, slightly damaged. ***Special Price While It Lasts.*** Phone or write.

ADAMS PIPE CO., 603 Grant Bldg., Los Angeles, Cal. Phones: Main 1917, Home 1917

National Wood Pipe Company

Woodward Pat. Machine Banded Pipe, Wheeler Pat. Continuous Stave Pipe, Bored Wood Water Pipe

Made from California Redwood **WOOD PIPE** Or Selected Puget Sound Yellow Pine

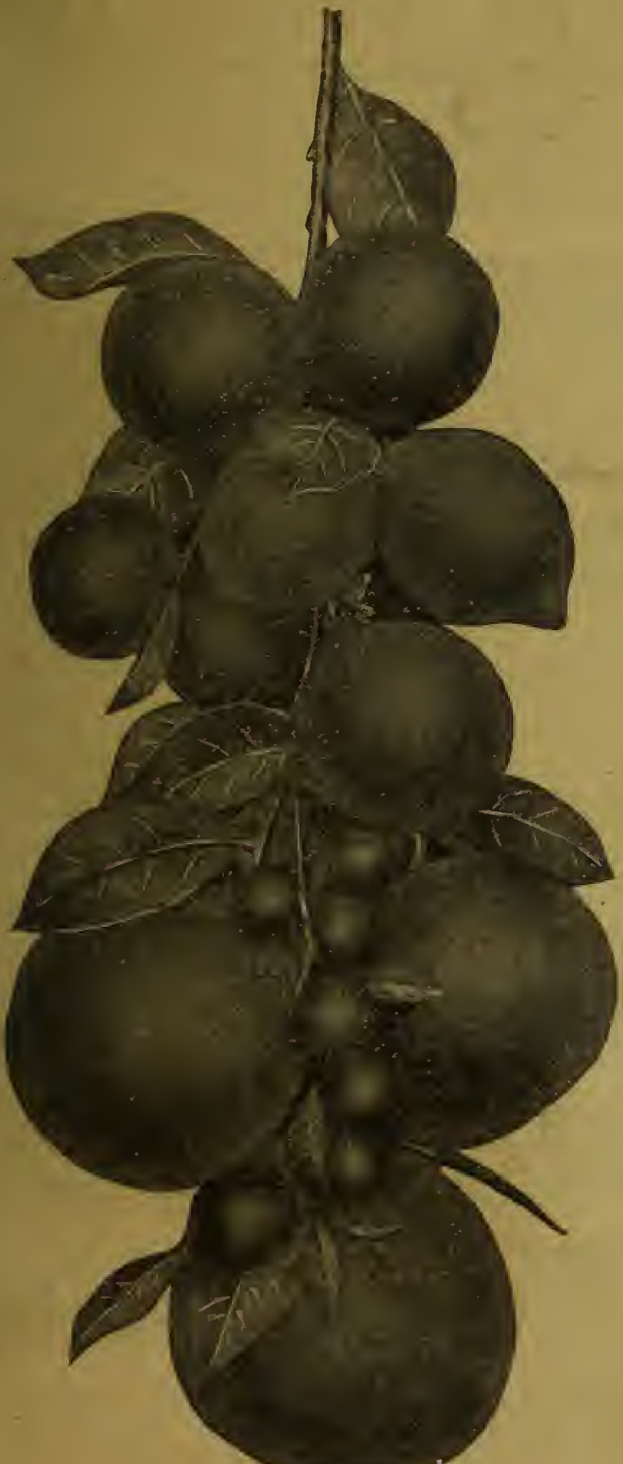
Puget Sound Office: Olympia, Washington
San Francisco Office: 268 Market St.
Los Angeles Office: Cor. First and Spring Sts.
Salt Lake City, Utah: Dooly Block

A Booklet, "The Whole Story About Wood Pipe," mailed free upon request.

California Cultivator

Los Angeles February 13, 1908 San Francisco

A Collection of Citrus Fruits



MARSH'S SEEDLESS POMELO.
KUM-QUAT.
DANCY TANGERINE.
EUREKA LEMON.
RUBY BLOOD.
VALENCIA LATE.

Oranges Everywhere

Oranges! Oranges!
Everywhere!
Train loads of oranges,
Plenty to spare!

Growing on mountain,
Abloom on the plain,
Smiling in sunshine,
Laughing in rain.

Green for a background,
Gold in advance,
Pendant from hranches
Too laden to dance.

Roses and oranges—
My, what a feast
To the eye of the tourist
Just out from the East!

Where they dig through the snowdrift,
And pile it so high
You can't see the sunshine
Or stars in the sky.

There they start with the winter,
Or, late in the fall,
A-blowing their fingers,
And kicking the wall.

And all of the people,
The young and the old,
Spend most of their moments
A-fighting the cold.

O, long dreary winter
As most of us know
With the mercury sleeping
At forty below!

When they keep the fires roaring
To beat back the storm
Then scramble for places
To keep themselves warm.

So our fancy reverts
To the balm and the bloom,
And revels in sunshine
With plenty of room.

Where flowers and verdure,
With carol and song,
Are loving companions
The whole winter long.

—Redlands Citrograph.

SUCCESS

in raising young chicks depends greatly on the feed given to them for the first six or eight weeks.

BY FEEDING

COULSON'S SPECIAL DRY CHICK FOOD

during this early stage you will get the chicks through their time of danger in a healthy and vigorous condition.

THE REASONS FOR THIS ARE MANY—First, each ingredient is carefully selected for its purity, wholesomeness and fitness as a food for a baby chick. Then the strength is considered. A *specially strong* grade of *wheat* is used, as well as *steel cut oats, millet,* and the *best* of *meat.* These are all carefully granulated so that the chicks do not get anything too large, and the grains, etc., are mixed in sufficient variety to *insure* a *perfect balancing* of the different properties which go towards *growth* and *vigor.*

Then again the feed being *free from dust,* can be fed in straw or litter, inducing exercise, and *increasing the strength* and *health of the chicks.*

These are among the reasons why you cannot afford not to feed

Coulson's Special Dry Chick Food

It Insures Your Success

If you do not know where to get it write to us and we will tell you our nearest local agent.

Coulson Poultry and Stock Food Co.

Petaluma, California

Germain Seed Company, Los Angeles

Agents for Southern California

Write for Our Free Book, "Poultry Feeding for Profit"

California Cultivator

Vol. XXX—No 6 Los Angeles, California, Thursday, February 13, 1908 Subscription $1 a Year

The Culture of Citrus Fruits in California

Written especially for the California Cultivator.
BY J. W. MILLS, RIVERSIDE.

The following article is written for this issue by J. W. Mills, who has been in the service of the State Experiment Station force for many years. Formerly Mr. Mills was in charge of the Pomona station and later was given charge of a greater field in special experiments in citrus fertilization. This work has taken him to all citrus sections of the Southern part of the State. Mr. Mills will now furnish more regularly matter for the Citrus Department of the Cultivator.

CITRUS culture in California has now outstripped all other horticultural industries, exceeding the cured fruit and raisin output over three hundred per cent. The shipments amounting to over 29,000 cars. Many of the groves that sent out fruit last year were just coming into bearing, and many are old groves that are just beginning to improve through more intelligent handling. This latter condition is, in many cases, due to experimentation in handling the groves, but is most largely due to indifference on the part of owners in the past because of low prices received for fruit. The trees became run down and in poor condition. High prices for fruit and advanced values in orange property have impelled the owners to give their groves better care, and a larger production of oranges may reasonably be expected during the next few years. In addition to these elements that bear on the production of the golden fruit, nurserymen have difficulty in filling orders for the standard varieties. Thousands of acres will be planted yearly and when all come into bearing, the citrus industry of California will, no doubt, eclipse all other branches of horticulture.

J. W. MILLS.

Advantage of Location.

There are many locations in California in which specific varieties and types of oranges are more advantageously grown than are others. It is of some importance that these facts should be recognized and taken advantage of. The sections that produce early fruits should plant the varieties of orange that ripen early. Late oranges should be grown where fruits of all kinds mature late. The same rule that applies to apple growing is applicable to the growing of oranges or any other fruit. It is true that the Valencia late, for instance, is a most profitable orange when grown in an early section. Still the finest grade of this fruit is found not very far removed from the coast, so near that it is within its influence. In the interior valleys this orange will turn green after it has matured and before the season of high prices for Valencias has come. A climate that is suited to the development of firstclass softshell walnuts, has proven to be ideal for the growing of Valencias.

Riverside and Redlands navel oranges are famous all over the United States, and buyers who have operated all over the United States and abroad have told us that oranges grown as far inland as the two places above mentioned, are unequaled in appearance and quality. Equally well packed navels from the coast region where the best Valencias grow do not command the price that the inland grown navels do.

Bud Variation.

The Washington navel orange cannot be improved by growing seedlings, but it is prone to bud variation perhaps more than any other cultivated fruit of importance. In this way, many improved types of navels have been secured while, also, many poor types have developed. It is due to this last occurence that many trees bearing inferior fruit are to be found scattered throughout California. This will no longer occur to much extent, as it is now generally recognized that it is important to select the buds from trees that produce a good type of orange.

Types.

There are a number of distinctly different types of the navel orange, being different in appearance, texture and time of ripening. This last quality is very important, as it gives a wider latitude for the culture of this fruit, by giving the early sections a distinctly early orange and also lengthens the market season generally. Certain soils and sections are inclined to produce an orange with a thick, coarse rind, and for such locations those types that have a thin and smooth rind should be planted. For instance, certain locations in the Sacramento valley produce the Washington navel orange with a coarse rind. Thompson's Improved and Navelencia both have a smooth rind and also being earlier than the regular type of navel orange, should be planted in such sections. The desert regions produce a smooth and handsome orange that ripens much earlier than when grown nearer the coast. It is not so important that a smooth type be selected for this region, but the fact that they are also early makes them desirable.

Golden Nugget and Golden Buckeye are remarkably distinct variations of the Washington navel, and while they are an improvement over the original type in texture, they have lost other good qualities. Golden Nugget develops a long stem on which the orange hangs and swings in every breeze, thereby becoming bruised and disfigured, making it anything but a fancy orange. It also has the habit of splitting on the sides from an inch to two inches from the navel, very often one to three or four short splits occuring on one orange. Gum will exude from these slits and make the orange a poor keeper. The color of the orange is a lemon yellow. The navel is almost entirely closed. making the orange smooth and handsome in shape. The quality ranks well with a fancy Valencia, being heavy and of good texture.

Golden Buckeye has not been so extensively grown and its quality under different conditions is not yet determined. It is also light in color, with a faint streak of red in the rind on some specimens. The navel is almost wanting and the skin is so thin that the segments of the fruit are distinctly marked.

These are the chief types of the Washington navel orange, though there are all gradations from oranges of the thinnest texture to that of extreme coarseness to be found in many groves where no care has been exercised in the selection of buds when the trees were propagated. It can be plainly seen from the above statements that careful selections of buds is the first essential in starting a first-class orange grove. Location should determine what variety or type should be selected. Soil has not so much to do with starting and maintaining an ideal orange grove as has the selection of stock, location and subsequent care. The start that is afforded a grove when planting is quite as important.

Planting the Trees.

The plan of planting a citrus grove should not be different from that of any other orchard, when the trees are to be approximately the same distance apart. There is nothing gained by planting on the septuple plan, six trees in a circle and one in the center, over the system of planting in squares. The space occupied by the tops of the trees does not indicate the manner in which the roots are distributed in any kind of an orchard. The roots will fill the soil in an orchard alike, whether the trees be planted in squares, diamonds on the septuple plan. This has been demonstrated and should settle the question of the plan. Every practical orchardist knows that it is easier to cultivate an orchard when it is planted in squares than when planted any other way. These last remarks apply to orchards planted in straight rows. When the orchard is to be planted on a hillside whose slope would cause cutting out of the irrigation furrows, it is more profitable and convenient to plant on contour lines. These contour lines should not give a fall of over one inch to ten feet. This will give plenty of fall for a 300 or 400-foot furrow, while a greater fall will cause considerable washing.

Distance.

Individual opinions differ as to the distance apart that trees should be planted. Trees should not be planted so close that they will crowd when fifteen or twenty years old, and it is not economy to plant them so that the outer branches will be ten to fifteen feet apart when they are thirty years old, unless the object is to plant for future generations. From 20 to 24 feet is a good distance. Navel trees will not crowd at 20 feet till after they are twenty years or more old.

Time to Plant.

It is a generally accepted opinion that orange or lemon trees should be planted in the late spring or early summer. This is immaterial if the location is not too frosty, in which case early planting is best, because it allows the tree to make an early growth and mature some of the new wood. Trees which are planted in April and have the tops removed at the time of transplanting from the nursery will not make as good trees nor will they go through the winter as well as trees that are planted with the entire top as grown in the nursery when they are balled and transplanted with proper care and transplanted as late as the last of July. In frostless locations, or where the frost is not severe enough to injure the tender growth, planting may be done as late as September.

Mr. J. H. Reed, of Riverside, was the first grower to advocate through the press and demonstrate to the experiment stations the advantage of transplanting, as described below:

Trees of one-inch caliper or more should be selected in the nursery and well soaked, so that they may be properly balled. They should be taken directly to the field and placed in the holes previously made for them. The holes should be at least two feet deep and as wide. The dirt should be filled in around and settled with water so that the trees will remain in the holes at the same depth that they grew in the nursery. The ground should be thoroughly soaked for some distance around, so that they will have plenty of moisture to draw from till the next irrigation. Thorough cultivation should follow to prevent the evaporation of the moisture.

Continued on Page 175

Benefit from Cover Crops

BY JAMES MILLS, RIVERSIDE.

Through the courtesy of the State Horticultural Commissioner and his secretary, Mr. John Isaac, we arc able to give in advance of its regular publcation in the State report, extracts from Mr. James Mills' address at the recent State Convention on Cover Crops. Mr. Mills has had wonderful success on the great Arlington Heights properties as a result of his direction, and no small part of it is due to intelligent handling of cover crops. Our thanks are due to Mr. Jeffrey and Mr. Isaac for the courtsey of the advance proofs.

I HOPE that you will give me a sympathetic hearing. I have a large subject. I do not feel capable of dealing with it in the manner in which it ought to be dealt with. It is a subject all of you ought to be studying. You could give days, weeks, months, years to it and not exhaust it. It is a subject which we must know more about if we are going to do our duty by ourselves, our fellows and posterity. It is a subject that will enable us, if we thoroughly understand it, to keep our soils in a real state of fertility, in first class physical condition, in condition to do work for us more and more from year to year, and to be left in condition after we are done with it to do more work for those who succeed us than it did for us when we received it.

The Romans, two thousand years ago, used the cover crop to keep their soil fertile. They did not know just what effect it had on the soil, or, rather, they did not know just what brought that effect about which was apparent to them. They knew that after the growth of a cover crop, a crop of legumes, other crops succeeding them were better than where they were not used.

The Egyptians, for thousands of years, also have used these cover corps. The berseem has been used throughout centuries. No doubt Joseph, when he was premier of Egypt, saw the berseem used year after year and followed with the corn and the cotton and the sugar cane; and those soils have been kept in very good physical condition, a splendid condition of fertility, by th use of these leguminous crops as well as by the overflow of the great Nile river.

The ordinary layman may not be aware that the growth of our crops and the existence of agriculture and horticulture, and, therefore, the existence of life, animal life, on the planet, are dependent upon life in the soil, the existence there of micro-organisms, bacteria—bacteria which, in size, reach from 1-2,500 to 1-25,000 of an inch, and that from 30,000 to 1,500,000 of these are found in a gramme of agricultural soil—15,4 grains of soil. In places, in densely populated cities, where cleanliness is not observed, as in some of the Italian cities, we will find in the same extent the same bit of soil, the gramme, from thirty millions to one billion of these micro-organisms.

They are, I might say, the life of the soil. Without them we can not grow crops. It is, therefore, well for us to remember that the first thing we must do with the soil is to make it a fit habitation for these micro-organisms which labor with us and for us for the upbuilding of agricultural and horticultural industries and, therefore, for the upbuilding of the civilization which we are building and which has been builded before us.

Bacteria Necessary.

We know that bacteria have to deal with the making of our butter. Bactcria makes your milk sour. They give a better flavor to your butter; they give a better aroma to your butter. The Federal department today is actually growing bacteria stronger, more vigorous, more capable of doing the work that these little micro-organisms have to do in the soil and have to do in the arts and in the manufactures, and is distributing them to those who war them in their business for the inocu lation of the soil and for the manu facture of butter. You know that a diseases, typhoid, tuberculosis, ar thrax, lockjaw and kindred ailment are brought about by bacterial a tion. Bacteria are everywhere exer ing an enormous influence upon th conditions that surround man. W sit down to our dinners and we e the crude food that is presented us; I mean crude in that we cann digest it; it cannot enter into and b come part of the blood and the flui of the body until it has been sof ened, until it has been digested that is, converted into forms of ma ter which will make blood and t fluids of the body, that it may be ca ried into the system to build the ti sue and to sustain this organism wi which man does his work.

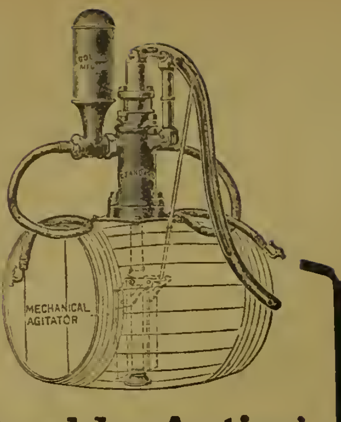
Necessary to Soil Fertility.

That is true also in the soil, th nothing cau become valuable to pla life but through the activities these micro-organisms. If it be tr that no mineral fertilizer, inert in t soil or put in the soil itself, no pho phoric acid, no potash, nor anythi you may use as a fertilizer, c possibly be of any benefit witho the action of bacteria, then surely devolves upon you as part of wisd to study these things, to study t conditions of the soil that will b develop them and make them healt organisms to grow crops for you, without them you can not grow a crops.

Then soil is but the detritus fr the mountainside and vegeta matter and animal matter in proc of decay, called humus—earth a humus. When we deal with this s cultivate and irrigate and grow c crops of corn and wheat and oats a barley and lemons and oranges a all the deciduous crops, we are ta ing from the soil this humus, wh is the life of the soil. The more cultivate with our cultivators—h in California we do not allow grass to grow in our orchards; keep plowing them. Intense culti tion is our method, and the finer cultivate it the quicker is torn the life of the soil. Now, when humus is exhausted from the soil have again the very detritus t came from the mountainside. It not soil; it is but detritus; it is rock; it is but mineral matter; w out the humus that gave it its which in its decomposition gave organic acids and acted as a st house of oxygen, leaves you a st soil. Now, if that be the case, an is the case, then the part of wis for us is to keep up the supply of mus in the soil because of the b ficial effect that it has on that s for without humus we have no without soil we have no crops, w out crops we have no farmers, without farmers we have nothin

It was in 1891 that Winogra and Warren simultaneously, the in England and the other on the tinent, discovered this little mi organism, discovered just what mission was, discovered that the of the Universe had placed in soil a wonderful little crea whose mission it was to take t the nitrogen from the atmosp and store it up in the soil that might continue the processes for and forever of the growing of c and the feeding of animals, the I say, only in 1891 that they f this.

To be continued next w



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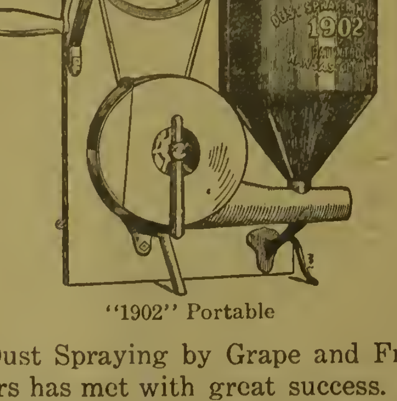

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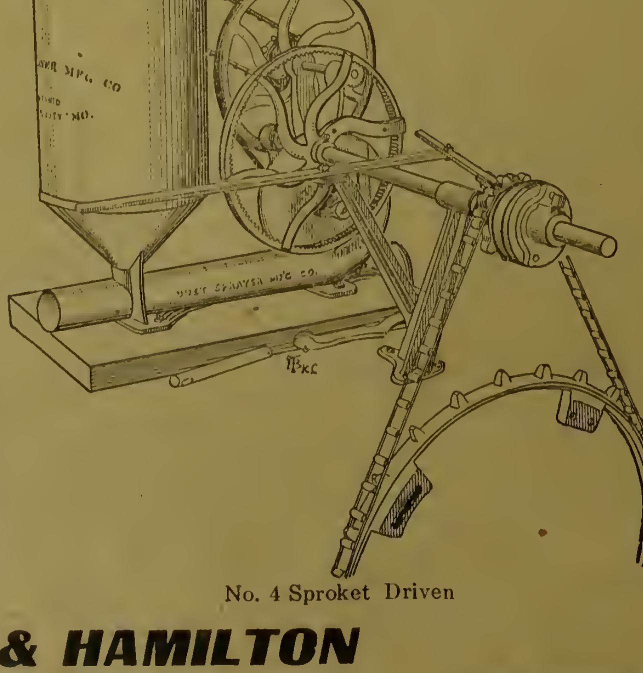

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Where Cover Crops Have Paid

Written especially for the California Cultivator.
BY C. C. TEAGUE, SANTA PAULA.

Mr. C. C. Teague, of Santa Paula, gives a short communication on the value of cover crops. Mr. Teague is manager of the famous Limoneira lemon orchards, which have been remarkably successful. More than any other one feature of large production of these groves is doubtless the system of green manuring.

REPLYING to your favor of recent date, asking me to write an article on cover crops for your special citrus number of the "Cultivator," will say that the calls on my time are such that I shall not at present attempt to write an article. I shall, however, dictate a short letter which will be rather in the nature of a testimonial of the advantages of cover crops for citrus groves.

For years I have been a believer and advocate of cover crops and have been growing them in the groves which have been under my charge for five or six years, with what I consider most excellent results. Hardly any up-to-date grower nowadays will dispute the advisability of planting cover crops in citrus groves, where one has a good water supply, so that the crop and grove can be irrigated. It is, therefore, more a question of the selection of the plant that will make the best growth in the particular locality in which the grove is situated.

Legumes Used.

We have been using fenugreek in our groves for a number of years with excellent results. The plant makes a vigorous, thrifty growth in this locality, is succulent and decays readily when plowed under. It is a good nitrogen gatherer, and has a good root. On the whole, I think it is the most satisfactory of anything I have tried. The same nitrogen-gathering bacteria that work on the burr clover seem to work on the fenugreek, and as burr clover is native to almost all Southern California soils, the bacteria is abundant wherever I have planted fenugreek. We have done some experimenting in the way of planting bacteria in our soils, but have not obtained any beneficial results. The tubercles on the roots have been as abundant where bacteria was not added as where it was.

My observation has been that the fenugreek does not do nearly so well in inland sections as it does near the coast, and that the vetch does better inland than near the coast.

Good for Nitrogen—Better for Humus.

While I believe that leguminous crops are valuable as nitrogen gatherers, I am inclined to think they are still more valuable in furnishing humus to the soil and improving its mechanical condition. It must be obvious that the constant irrigation and cultivation of soils will use up the humus, and as the action of the water is continually washing away the lighter portions in the soil it gets heavy and lifeless, and is not suitable to good plant growth. In one of our groves in particular that I have in mind, where we have been growing cover crops for six years, the improvement in the condition of the soil has been very great. It formerly was very stiff and hard to work. It now works up loamy and light, and the grove has been constantly increasing in thrift.

Complete Fertilizer Also.

In connection with cover crops we have been using a complete fertilizer. We have obtained the best results when the crop was drilled or sowed during the month of October, immediately following an irrigation. After the crop is planted, the ground is furrowed, so that should the winter rains be delayed or deficient, the necessary moisture can be supplied by irrigation. We usually begin plowing the crop under during the month of March and finish some time during April. We have about 700 acres planted to cover crop this year. The early planting has done well and we have a good growth. The late plantings, however, on account of the winter rains being so long delayed, are more backward than they usually are at this time of year.

Can't Afford Not to.

By no other means can humus and nitrogen be applied to soil so cheaply, and the owner of a citrus grove, or any other orchard for that matter, cannot afford not to plant cover crops, if he has a good supply of water. We have fenugreek planted in about 400 acres of walnut orchard this year, and are very much pleased with the way it is doing.—C. C. Teague, Santa Paula.

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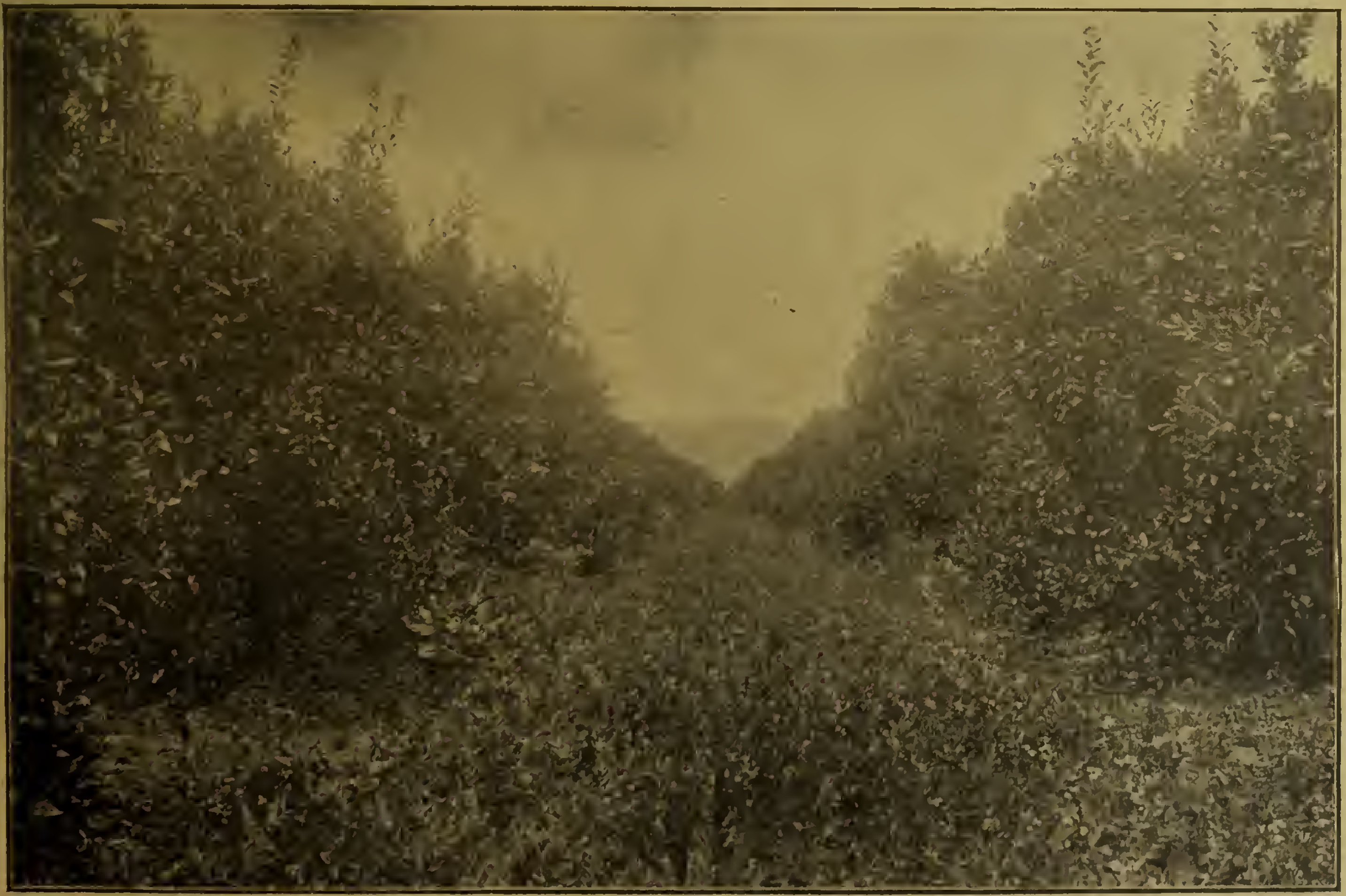

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LEMONS
Eureka, Villa Franca, Lisbon

LIMES
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POMELO
Marsh's Seedless, Triumph

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Orchard Planting and Care

Written especially for the California Cultivator.

BY R. M. TEAGUE, SAN DIMAS.

R. M. Teague, of the San Dimas Nurseries, is known by practically every cit grower in California. He has grown oranges for 25 years and has learned the ga He can grow nursery trees to perfection. We have heard the expression "just good as Teagues," which is highest praise. This explains why his nurseries have come "The largest citrus nurseries in the world."

THE California Cultivator has been good enough to ask me to contribute an article on the culture of the orange and lemon for its Citrus edition. This in its broad sense is rather a large subject, covering in its entirety, the soils and climates, methods of propagation and cultivation, manner of picking and finally, the harvesting and marketing of the product. For the most part these basic principles of our leading industry are pretty thoroughly understood by the owners of orange and lemon groves in this State. The side issues, such as the finding of injurious insects and diseases, the selection of proper varieties, the training and pruning of the trees have also

R. M. TEAGUE.

been rather thoroughly exploited. It would seem that in the evolution of citrus fruits in California, that we have thoroughly mastered the difficulties in a way, and we have tested out all the inferior varieties of both oranges and lemons until we have simmered down to what are really the money making sorts. Strange as it may seem, these have been by a law of elimination reduced down to a very few kinds. In the orange, we have first the Washington navel, then the Valencia Late, Thomson's Improved navel and possibly two or three others, such as Ruby Blood, Mediterranean Sweet and the Paper Rind St. Micheal, with the Mandarin and the Kumquat as profitable novelties; in the lemon, it has simmered down to about two sorts, the Eureka and the Villa Franca.

As an economic proposition, it would seem at this time wise to attempt the improvement of these sorts; that is to say, extend the season of the Washington navel over a wider space of time, improve the shipping and eating qualities of all of these varieties as much as po ble. These endeavors, it would se to me, would lead to larger retu to the growers.

We Must Cover the Whole Year.

There is another thought, howe which has been brought forcibly my mind the past year or two in travels over the State. It is t that with our great diversity of mate and soils, is it not possible in the geographical distribution the orange and lemon, we might that certain varieties will come market at just such periods of year when the planted areas, as understand them at present, find off the market. For instance, exp ments carried on in the Imperial ley have demonstrated that the ange will mature its fruit there n earlier than in Riverside and San Gabriel valley. We have learned that in the Tulare district, the heart of this great San Joaq valley, that the orange and le will ripen its fruit as early as latter part of November, thus crop harvested at that point is p tically off the market at the time Riverside crop is at its best. T diversity of climate, coupled with earlier and later periods at which fruit ripens, has suggested to me thought that when we shall o have thorughly exploited the possi ties of citrus culture in this State, shall learn that over a very large s son of the year the orange will found in a marketable condition one or more points.

The experiments that have b carried on of late in the Imperial ley have impressed me with thought, namely, that there are undeveloped citrus areas which produce a fruit which will be excel by none, at the same time com

ROWING ORANGES BELOW SEA LEVEL.

THE great range of the orange as to latitude in this State often causes wonder, and now comes a elow-sea-level-section to show the reat range as to altitude. Its favor- te location has been claimed to be n the warmer foothill slopes from ne to three or possiblly 4000 feet al- itude.

But out on the Colorado desert in he Coachella and Imperial valleys a section ranging from sea level own to 100 feet below are being aised some of the earliest and some xceedingly fine flavored fruit. For our years the experiment has been ade in a small way and during the ast season other citrus sections ave been taking notice. Hereto- ore, if one thought at all of that sec- on entering the citrus field, it was s to the temperature being too low or ltitude not right or other factors hich bar the consideration.

But fine fruit has been shown from ere this season. Wishing reliable formation the Cultivator asked a ıbscriber, D. G. Whiting, of Heber, or a statement as to his observa- ons. He writes:

"In answer to your request for in- ormation concerning the citrus pros- ects and possibilities of Imperial alley, I will try to give you such cts as are within my knowledge.

"I think a few orange trees, also a w lemons were put out four years go this spring, but I have no per- onal knowledge of what they have one, though I have heard very fav- able reports. Three years ago this ring several parties put out a few ees, mostly for experiment, and all ve exceeded our expectations. With ery little cultivation or care, except give them plenty of water, they re nearly double the size of the verage tree the same age in San ernardino or Riverside county or- ards, and hundreds of orange grow- s who have seen my trees pro- ounce them remarkably vigorous nd healthy.

"The orange trees all bore fruit the ast year, and some of them the sec- nd year, while a Villa Franca lemon ee had more than a box of lemons n it for the third year. None of em were planted in a sheltered lace, though other trees are grow- g up now so as to partly protect em from the more common west inds.

"In regard to temperature, I think e whole valley is practically frost- ss. The young, tender growth on e lemon trees has never been in- red, and the past two seasons to- ato vines have lived and borne uit all winter without protection. s to soil, I prefer a medium be- veen the light and the heavy. Sandy il is easier cultivated, but heavy il is surely the most fertile and roductive.

"As to location or altitude, I know o choice, except perhaps the lower ortions of the valley may in future ears be more liable to an accumula- on of salt upon the surface, though do not think so. My own place is lose to sea level, while a good part f the valley is still higher.

"Our great advantage in orange rowing is in the earliness of ripen- g. Our fruit, though just begin- ing to color Nov. first, were as weet and palatable as oranges rown on the coast are two to four onths later. This enables us to put a ripe orange in the market for the early winter trade; an advantage which is evident to all orange growers."—D. G. Whiting, Heber.

Coachella valley offers much the same conditions as at Imperial, and will some day be heard from with something more than brave talk.

Veterinary Instruments, Black Leg and nthrax Cure. Milk Fever Outfits. See . J. Weber Co., 555-557 S. Los Angeles treet, Los Angeles.

THE CITRUS PROTECTIVE LEAGUE.

THE Citrus Protective League of California was organized at Los Angeles, March 12th, 1906, at a meeting held in the assembly room of the Chamber of Commerce Building, at which there were present 76 accredited delegates, elected by various citrus growing and shipping organizations. The organization was formed for the purpose of consolidating the interests of citrus growers and shippers in matters relating to fruit growing and shipping, and particularly as to questions involving freight rates, icing charges, routing of cars and legislation governing fruit interests. In effect, it was the creation of a department by its members to look after and represent their interests in general matters where organized effort was to be made for better conditions affecting the citrus industry.

An Administrative Committee of thirty was selected as a governing committee from the principal growers and shippers of citrus fruits, who in turn selected an Executive Committee of seven, who with the secretary and manager now direct the operation of the organization.

The membership now embraces 133 of the principal associations and shipping firms, representing 80 per cent of the citrus output of the State.

The League took up with the general freight agents of the transcontinental railways the question of the orange rate to Eastern points and not heads, sending a committee to Mr. Harriman of New York, and Mr. Ripley of Chicago, with the result that on Feb. 6th, 1907, the orange rate was reduced 10 cents per 100 pounds, a saving to the industry of over $27.00 per car in freight charges, or approximately $700,000 per year.

The League is now preparing to meet the issue to be raised by a revision of tariff schedules, with a view to protect our citrus industry from revision with a downward scale, and expects to co-operate with other industries in sharp competition with imports from tropic and semi-tropic countries.

The Citrus Protectice League is not in any sense a political organization, but regardless of all parties, its members and their representatives generally, stand for the principle that United States Senators should be chosen by a direct vote of the people and that the Interstate Commerce Commission should have the power to fix rates and regulate the service of common carriers.

The Citrus Protective League does not seek publicity, but performs its duties quietly and is entitled to the support of the other twenty per cent of growers and shippers, who receive the same benefit from its work, as do its own members.

WHAT CAUSES HEADACHE
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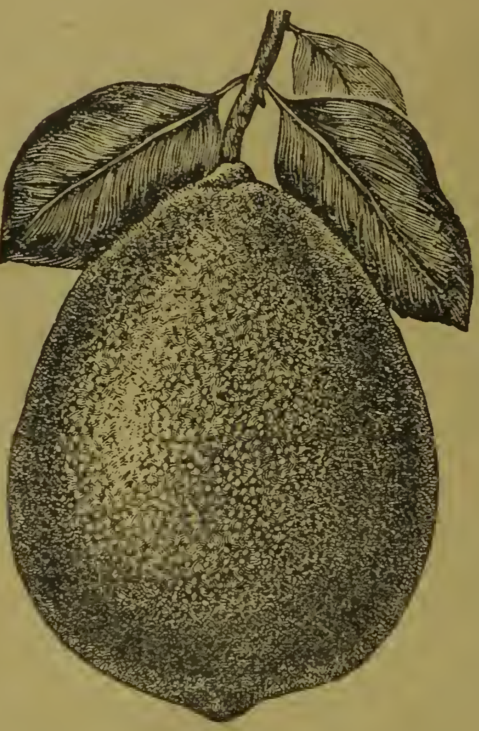

It is a true ever-bearing variety. On a plant six feet high no less than eighty-nine of these ponderous lemons were growing at one time. It was a beautiful sight to see. The tree was blooming and at the same time had fruit in all stages of development. from the size of a pea up to the ripe fruit, showing it to be a true ever-bearer. It blooms and bears fruit when quite small and you do not have to wait 4 or 5 years to get fruit.

Fruit has been taken from this tree weighing over four pounds. The lemons will average two and a half to three pounds. Now this may seem to you like a fairy tale, but it is a fact that this is the largest lemon known. There is a lemon sold by nurserymen that goes under the name of Large Lemon, but **Ponderosa** is distinct from that variety. **Strong Plants, 25c each, 3 for 50c, 6 for $1.00.**

Los Angeles, Cal., January 30th, 1908.

MR. A. MITTING, Santa Cruz, Cal.

Dear Sir:—The plants by mail were received in good shape. Your stock is certainly first-class and your packing and shipping of orders can't be beat, all of which indicates that you do a first-class business.

I believe that I will get good results from these plants.

Yours truly, J. A. MUNK.

A. Mitting

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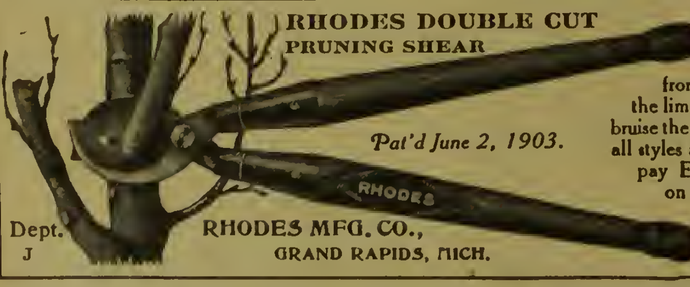
Citrus Trees

For Season 1908

Valencia, Eureka Lemons, Thompson and Washington Navels, Grape Fruit

C. L. McFarland & Co.
Riverside, Cal.



RHODES DOUBLE CUT PRUNING SHEAR

Pat'd June 2, 1903.

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Dept. J

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Fertilize with

Nitrate of Soda

May be purchased in large or small lots from

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Fumigating and Lemon Curing Tents our Specialties

Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants 800 slightly used tents, all sizes, for sale cheap.

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Phones Home, F 4871; S. S., Main 8500
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When writing advertisers, mention Cultivator.

Practical Orchard Fumigatio

Written especially for the California Cultivator.
BY S. A. PEASE, SAN BERNARDINO.

San Bernardino county has surely had a capable horticultural commissioner i A. Pease. He has entered the field and done the work of fumigation for grower a way which has won the confidence of growers, and controlled the pests of county. Mr. Pease gives of his valuable experiences in the article, below, and w fumigation is a work which requires experience to accomplish results, at the s time valuable points like following are of great importance.

IN citrus fruit sections of California fumigation is today the generally accepted method for controlling injurious insects that have as yet no efficient parasite. But, notwithstanding the fact that we have been experimenting with hydrocyanic acid gas for a good many years, there is still too much diversity of success in controlling our common pests. This fact is attributable to a number of reasons, the main one of which is trying to do the best work with an insufficient amount of chemicals. Other reasons are—use of imperfect tents and lack of knowledge of the proper conditions necessary to do the best work and get the best results.

S. A. Pease.

If I were starting out anew in the business I should use sheet tents only as they are easily handled and loaded on wagons and gotten into the orchards without carrying them in one at a time as is sometimes the case with hoop tents. The latter, on wagons, require a space between the rows to drive through as wide as the diameter of the hoops. For instance, most of our hoop tents are fourteen feet in diameter and we cannot drive into an orchard with them unless the distance between rows is that great.

Sheet tents up to 35 feet may be made of 6½ ounce drill. Larger than that they should be made of 8 ounce double filled duck; and very large ones say from 65 feet up should have 10 ounce centers where the hardest wear comes.

Oak Extract.

Tents are less liable to mildew if treated with oak extract. Our method is to have a tank large enough to hold the largest tent, built over a furnace. This we fill with water and add sufficient oak extract to make it very dark in color. Bring this liquid to a boil and dip the tents one at a time until they are thoroughly saturated in the boiling liquid. Have a derrick erected over the tank and pull the tent straight up out of the tank and drain, after which spread out on the ground until perfectly dry, then fold and roll them and put away until wanted for use. When in use in the orchards use poles a trifle longer than the height of the trees, each having a rope attached ten inches below the top, tied around a little concavity made around the to prevent the rope slipping.

For very small trees the ropes not needed and two men are suffic to throw the tents. But, for the lar trees it is necessary to have four t throwers; one man to each pole one each for the ropes. The upper of the pole is placed under the e of the tent and the rope given a l hitch over the end of the pole and t and raised six feet from the gro when the men at the ropes pull poles upright and the tent is ea drawn in its place over the tree.

The Method.

There are several methods of ha ling the chemicals—either carry them by hand on trays or in a c or on a light wagon with a horse. will give our method. We use large barrels which are each day fil with water in the orchards; at same time the chemicals are dis uted for the night's work. The c ide is weighed out at the storage b for each orchard aud the acid is ta out in two gallon jugs, as it is eas to handle it in the orchard in t way. For filling the jugs we hav large box lined with lead, like a sn bath tub, and this is set under a r which supports the acid in dru The acid is emptied from the dru into the box below. In the end the box at the lower end is a fau with a lead valve (everything that acid touches is lead.) The valv easily raised by means of a lead r the jugs are placed one at a time der this faucet and filled.

In the field each foreman has a c containing a churn for acid, a keg water, scales, cyanide, dippers, l tern and so forth. For most orcha we use two gallon fumigating ja The jars should always be la enough to prevent the charge boil over under the trees. A jar is w each tent and is transformed to next row as the tent is moved.

Mending.

* * *

We have tent menders who fo up and examine the tents each and patch all holes. All small h are repaired with rubber ti patches the same size as the ca patch. A box is placed under tent, the tissue and cloth are lai place, a damp cloth is placed over patch and a hot flat iron does work, melting the rubber tissue sticking the patch on. This p does not come off in damp or weather. In the past we used a g line stove with a sheet iron cover heating the flat irons. But, we find it more convenient to use ch coal flat irons that keep hot as l as one keeps a fire inside of them. large holes or rents in the tents use sewing machines fastened o the platform of a cart. This ena the menders to easily take the chines from tent to tent in the fi

The Outfit.

We have zinc covered chests w lock for each outfit to keep s graduates, rubber gloves and so fo in, when not in use.

Continued on Page 17[illegible]

A Straight Talk With Farmers on the Question of Fertilizing

ANTS, LIKE HORSES, MUST HAVE PROPER FOOD.

Farm teams could not do good ork on an hour's grazing at noon- me. They merely need oats, cured ay, corn—something that makes uscle and energy.

The oats, corn, hay, on which they e fed, must also have the right nd of food—cannot grow in large alk, in full and solid grain, with ch, nourishing qualities, from the ttle plant food that is left in an old orn soil.

OIL LOSES ITS BEST PLANT-FOOD FIRST.

If the grocer allows customers to lect fruits and vegetables from his pen boxes, the first comers will take e finest. Nature compels plants to lect the best food there is in the il. They are all greedy for

NITRATE OF SODA.

r they thrive best on that; and hen there is little of it left they windle, simply because they are arving. There is only one thing to o when the nitrate is exhausted: e soil must be supplied with more.

HERE ARE THREE WAYS OF SUPPLYING THE SOIL WITH NITRATE.

1. You can do it by putting in raw itrogen. You have the raw nitrogen n such common fertilizers as weeds, eaves, grasses, tankage, offal, dried lood or fish, or any kind of organic atter.

There are disadvantages in this lan, however, which it is well to learly understand. In the first place, lants cannot eat raw nitrogen any ore than horses can eat cord wood. he plants must wait until nature uts her forces to work and changes he raw nitrogen into nitrate of soda. his work is done by a certain kind f bacteria. These bacteria propa- ate in sufficient numbers only when he weather is favorable. With con- inuous warmth and frequent light ains, i.e., with perfect weather, a art of the work will be done in a nonth or two; but a great deal of the aw nitrogen will not be converted nto nitrate for a much longer time. ow grade fertilizers require a year r two.

You see that the plants will have ut a small portion of the nitrate rom raw nitrogen at the particular ime when they need it. This fact vill be referred to again. It is a vi- al fact.

It is also a fact that much of the itrogen is lost in gases during this rocess of conversion into nitrate. hat is clear loss.

Still another fact of special im- rtance is that in the change from aw nitrogen to nitrate there is often n acid by-product thrown out hich sours the soil and seriously jures the quality of the crop.

When these losses and hindrances re summed up, you will find that all rganic fertilizers are needlessly ex- ensive, and do not give you the rops you pay for putting in.

Nitrate of soda instead of sour- g a sweet soil will sweeten a sour oil. When all its nitrogen is used p the residue of soda is wholesome, s you well know.

II. Nitrate of soda can also be upplied to the soil in "combination." ow let us candidly examine this lan and see whether it is any better han the raw nitrogen plan. This lan is to use what are called "Com- lete Fertilizers," which contain a ertain per cent of soda.

Now, if the per cent were really certain—if it were not uncertain, both in amount and in quality—there would remain but one objection. That objection is very practical. The "complete fertilizer" costs a great deal too much.

FIGURES THAT ARE INTERESTING.

At the New Jersey Experiment Station 195 "complete fertilizers" were analyzed, and their prices tabulated, with the following results: The average price was $34.23 per ton. They contained, on the average, about 16 2-3 per cent of actual plant food. To get a ton of real plant food you must buy six tons of the "complete fertilizer," at an expense of $205.38—for about 20 acres.

Nitrate of soda, every ounce of which is the best possible plant-food, will cover your 20 acres with a bigger and finer crop for much less than half the money.

III. The right way to replenish a worn soil with nitrate of soda is to put in nitrate of soda—the pure stuff, as it comes direct, under Government inspection from the nitrate mines of Chili, where nature completed her great chemical work ages ago.

NITRATE OF SODA GIVES PLANTS THE ESSENTIAL "GOOD START IN LIFE."

You know that pigs and calves and colts must have a good start. If they are not well nourished during the first few weeks they become stunted, and never can make a full and fine growth. You know that is especially true of grains—a backward, dwinding start never can be made up.

Plants require their richest nourishing when their fine spraying rootlets are new and tender. If they do not get it then the rootlets quickly harden to a small size, and will not expand or extend sufficiently for the plants to get full nourishment later on. The loss cannot be made up.

Nitrate of soda, all of it, as soon as you put it in the ground, is ready to be taken up by the tender rootlets, and assimilated into the fibre and fruit of the plant.

With nitrate plants do not have to wait until Nature's little cooks, the bacteria, get a late dinner ready—with the cooks often on a strike because the weather is bad. Ages and ages ago the work was all done—the wasted gases all thrown off—and here is their pure and perfect food.

These three plans—the use of Raw nitrogen, the use of Complete Fertilizers, the use of The Pure Product in Nature made Nitrate of Soda—only need this plain statement of facts to show you which is the proper method.

NITRATE OF SODA MAY BE USED ALONE OR WITH MANURES.

On naturally good soils, nitrate of soda alone is frequently sufficient. If the soil is badly worn, use 100 pounds to the acre. If but partly deteriorated 75 pounds will give splendid results.

RESULTS IN CASH OF NITRATE OF SODA ALONE.

A large number of experiments on Timothy have been made by farmers all over the country and reported to Professor Myers, at 71 Nassau street, New York. Those experiments show that the use of 100 pounds of nitrate of soda to the acre produced an

AVERAGE INCREASE

of 2775 pounds of field-cured hay over the plot where nitrate was not used.

The nitrate of soda cost at the time the experiments were made $2.75. You know what you can get for 2775 pounds of the finest, cleanest, richest, field-cured Timothy. You make from 150 per cent to 200 per cent on your investment in three or four months.

POTATOES, BEETS, CABBAGES, CARROTS, OATS.

Similar experiments—by scores of farmers throughout the country, using 100 pounds of nitrate of soda (alone) to the acre—show average increase per acre of:

Potatoes	3600	lbs.
Beets	4900	"
Cabbages	6100	"
Carrots	7800	"
Oats	400	"

Figure it up yourself and see what an enormous profit you have on the small outlay necessary for 100 pounds of nitrate of soda per acre.

NITRATE OF SODA IS A MAGIC FOR ALL EARLY CROPS.

Peas, beets, lettuce, onions, radishes, beans, sweet corn, all truck gardening that you want early, with a rapid and luscious growth, will get the proper nourishment from nitrate of soda, which is a perfect plant-food ready for them on the instant.

THE ONLY PLANT FOOD THAT CAN BE USED WEEK BY WEEK.

Blackberries, gooseberries, raspberries, currants, as every gardener knows, should not make a rush growth, but a steady and even growth, which means that they must be fed little and often.

A sprinkling of nitrate of soda every week or ten days will show surprisingly fine results.

Nitrate of soda is the only fertilizer that will feed them instantly whenever they require special nourishing.

FOR PLANTING IN SUCCESSION AND RIPENING OF GARDEN TRUCK.

Nitrate of soda is the perfect fertilizer. It is always ready for assimilation. With a trifling outlay for 100 pounds to the acre you have fresh, rich "early vegetables" in September—just as luscious as in June.

THE NEED OF COMMON BUSINESS CARE IN FARMING.

If railroad men and manufacturers neglected their rolling stock and machinery as many farmers neglect their soils, they would go bankrupt in a year. With ordinary care in keeping up the soil, farming becomes a splendid business—the profits doubling and trebling.

FREE LITERATURE ON NITRATE OF SODA.

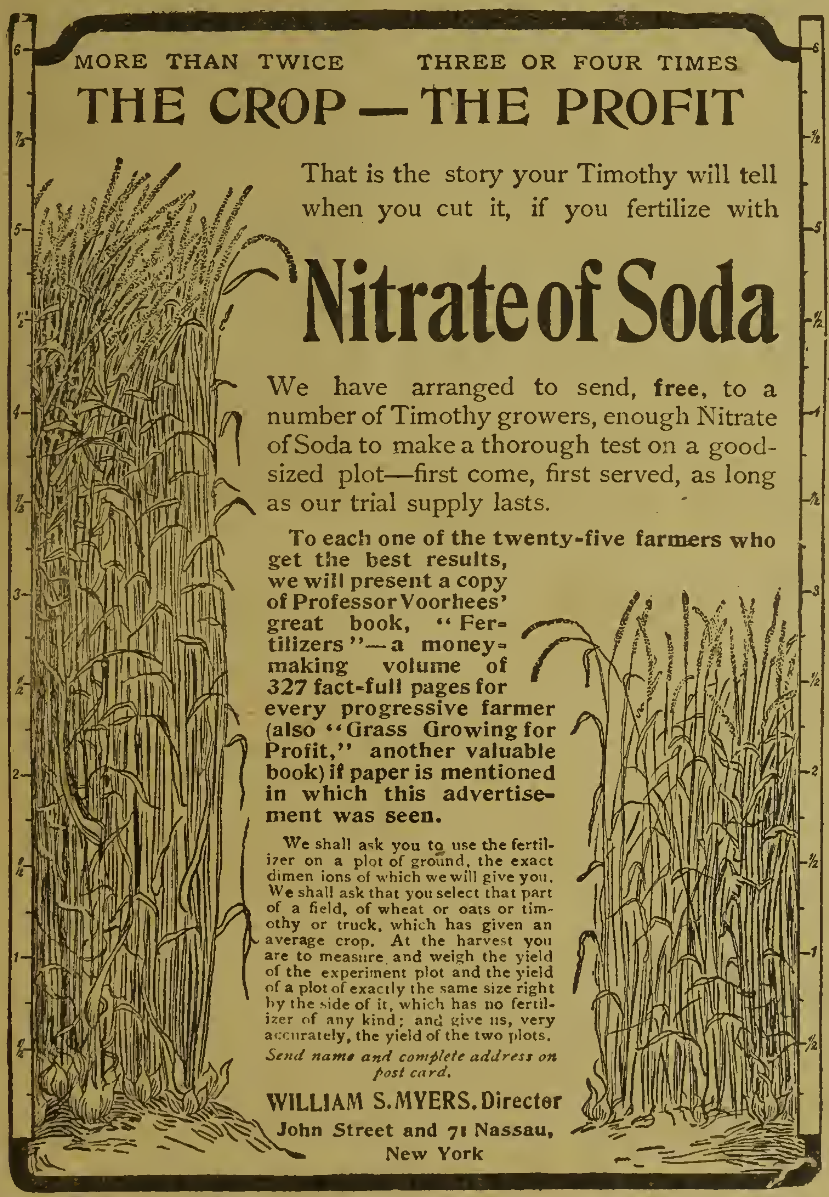
To a limited number of farmers who will make experiments under our directions, we will send the bulletins containing results of Agricultural Station work, which give actual data of trial fertilizing with nitrate of soda. We will also send our handsomely illustrated book of 230 pages on "Food for Plants." It is brim full of such useful and money-making facts as every farmer ought to be familiar with.

We want your word that you will meet our proposition candidly, and conduct an experiment with nitrate of soda carefully and give us the exact results.

The offer, of course, is limited.

Try it for yourself, and learn how much money there is in just a little science properly applied to farming.

If you do not care to make the experiment, or if too many have applied ahead of you, and you still want a lot of general information on this matter of raising big crops, The Nitrate Propaganda, 71 Nassau street, New York, will give this valuable free information.


MORE THAN TWICE THREE OR FOUR TIMES
THE CROP — THE PROFIT

That is the story your Timothy will tell when you cut it, if you fertilize with

Nitrate of Soda

We have arranged to send, **free**, to a number of Timothy growers, enough Nitrate of Soda to make a thorough test on a good-sized plot—first come, first served, as long as our trial supply lasts.

To each one of the twenty-five farmers who get the best results, we will present a copy of Professor Voorhees' great book, "Fertilizers"—a money-making volume of 327 fact-full pages for every progressive farmer (also "Grass Growing for Profit," another valuable book) if paper is mentioned in which this advertisement was seen.

We shall ask you to use the fertilizer on a plot of ground, the exact dimen ions of which we will give you. We shall ask that you select that part of a field, of wheat or oats or timothy or truck, which has given an average crop. At the harvest you are to measure and weigh the yield of the experiment plot and the yield of a plot of exactly the same size right by the side of it, which has no fertilizer of any kind; and give us, very accurately, the yield of the two plots.

Send name and complete address on post card.

WILLIAM S. MYERS, Director
John Street and 71 Nassau,
New York

Citrus Trees

Valencia Late Orange Trees

No variety of orange in California has given larger returns of late years to growers than the Valencia late, of which we have on hand a superb stock of one and two-year-old buds, which we are offering at reasonable prices. Planters in Southern and Central California will make no mistake in

Planting Valencias

Correspondence invited. Send 25c for our monograph on Citrus Fruits, telling all about the planting and care of an orchard and the harvesting of the crop.

San Dimas Citrus Nurseries
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CALIFORNIA

Roadside Trees and Orchards

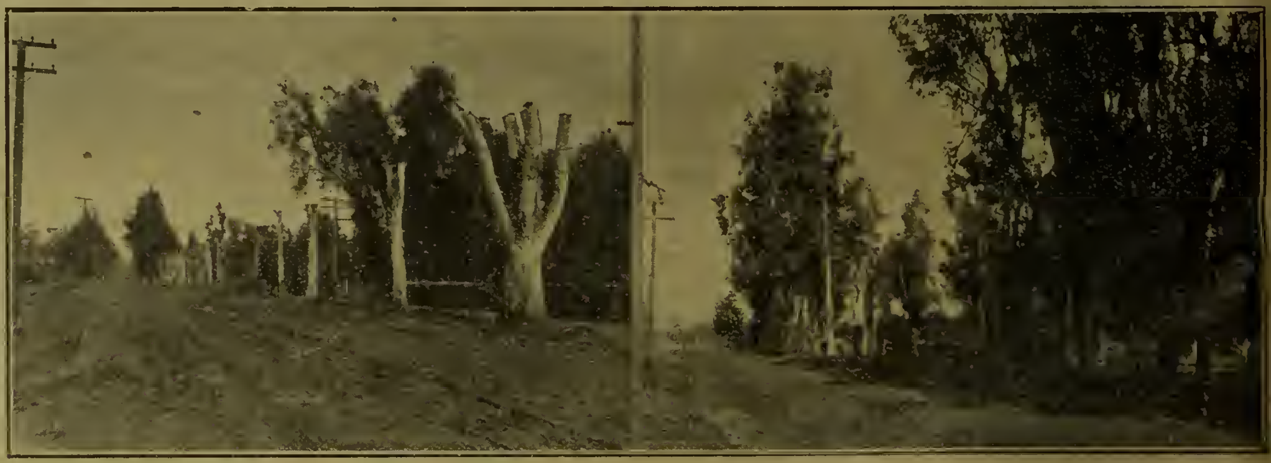
Written especially for the California Cultivator.

BY J. H. REED, RIVERSIDE.

Again it is a pleasure to give space to Mr. J. H. Reed, the veteran Tree Warden of Riverside. Many orange growers begrudge, and justly, the loss from big shade trees along streets. Mr. Reed discusses this question from the standpoint of one who has investgated and worked out the question of beautiful streets with the minimum injury to the fruit trees.

I AM requested by the editor of the Cultivator to reply to the often asked question: "Does it pay to grow roadside trees where such trees greatly injure adjoining orchards?"

I am rather glad of the opportunity to express my opinions on this matter, since it is a much discussed problem of real practical importance to our orange growing sections, and on which I have had occasion to give considerable study. I know the demands of the two distinct interests to be considered are thought by some to be antagonistic, while actual experience. I think, has shown them to be largely reconcilable. Fortunately, we have facts to deal with and not theory.



A row of eucalyptus street trees at Riverside which has seriously interfered with orange trees of the orchard. The picture to t left shows the row with two-thirds of the trees removed and the remainder heavily cut back to form, when they grow o again, a more symmetrical head. Back of the trees may be seen over 400 cords, which much more than paid for the r moval and pruning. The picture to the right shows the work progressing. This cutting of two-thirds of the trees out w greatly relieve the draft on the orchard and at the same time make much more attractive trees. At Rialto a eucalyptus ro cutter is working on this same problem. This machine will run three feet deep in soil and cut roots five inches in diamet Six horses and four men operate it.

The Conflict.

That the popular pepper and rapid-growing eucalyptus, common on our streets, are gross feeders, pushing their greedy roots far into surrounding territory, robbing nearby fruit trees of both food and moisture, is beyond question. With land worth from one to two thousand dollars per acre, this heavy poaching cannot be afforded.

On the other hand, the tree feature of street ornamentation has become a necessity with people of culture and taste, and this class is well in the majority in our orange growing districts, hence there must be some way found to retain our street trees, and yet eliminate, or greatly modify, their damage to adjoining orchards.

The Remedy.

This has been found practical in two or three ways. The first roots of our orange trees are largely near the surface. A deep rooting tree even near by does little damage. For this reason the palm, perhaps, serves this purpose better than most trees generally used on the streets. Where shade is not desired the palm is one of our popular trees. Being a clean tree and free from the objection of robbing crops, is being much planted on our Riverside streets bordering orange groves. Mr. Jas. Mills, manager of the Riverside Trust Co.'s orchards of several thousand acres, a great lover of trees, and interested in beautifying our streets, has recently planted over 3000 palms along the streets bordering their groves. When grown they will be a striking feature of the section of our valley known as Arlington Heights. Where acceptable, the palm probably solves best the problem of street ornamentation along our orange groves without doing injury to them.

Fewer Trees.

But it has been found that even the pepper and other heavy feeders with roots running near the surface may be used along orchard frontages, without serious damage, when for shade or other reasons they are preferred. Street trees are usually planted quite too near together. The pepper and other wide spreading trees should be at least 40 or 50 feet apart, and even a greater distance along acreage property serves the purpose of street ornamentation. The isolated trees we see growing in the open are usually symmetrical, and often grand and beautiful beyond expression because they have room for development. On the street the pepper has usually been planted 20 to 30 feet apart, two or three trees growing where there should be but one. The old eucalyptus rows are found from 6 to 20, and have grown straight up leaving a great number of tall stems to continually scatter their loose bark over street and field. On our Magnolia avenue, in a row of grand blue gums planted 18 feet apart, at one place a tree stands quite by itself, two or three being gone on either side. I measured the spread of this tree the other day and found it over 60 feet one way and 75 feet the other, giving as much shade as three of the others with far less damage from roots and better to the adjoining orchard.

These thickly set rows should be well thinned out even at the expense of temporarily disfiguring the streets. When this is done it will be found many of the remaining trees have been misshapen by crowding and will require severe cutting, but with our fast growing trees the damage will soon be repaired, and we will have a uniform row of permanently shapely trees, with the damage done to adjoining orchards very materially reduced.

Cutting Roots.

This remaining damage can be stopped by a little labor. The roots

Continued on Page 175.

Sure Hatch Incudators

75 Egg Size - - -	$11.7
100 Egg Size - -	$12.5
150 Egg Size - - -	$14.2
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BROODERS

75 Chick Size - - -	$8.0
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Black Minorcas, S. Duckwing Leghorns, Game
I won at the late Oakland show 1 Silver Cup, first, 1 second, and 1 third prize with 8 birds.
Eggs and Birds for sale
Black Minorca Eggs 5$ per 100
HOLLINGWORTH POULTRY YARD
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ORPINGTON RESERVATION
ROSS & TATE,
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BUFF, WHITE, BLACK
ORPINGTONS
EGGS—PRIZE WINNING OR BREEDING STO
One bird or Fifty—One setting or 10 eggs that hatch, at prices in propo tion to quality. Orders booked no for delivery.
We want you to see our place and birds, and w give you a reduction on purchases if you will c in person, but if you can't come send for our cat log. Worth money, but free. 1 blk. north, 2 e of P. O. P. O. box 125. Altadena, C

Buff Leghorns
Eggs and stock for sale from the best plac California. Nov. 1908 nearly all prizes at Hanf Fresno and Petaluma, including 4 silver cu Eggs $3.00 per setting from select matings, $ per 100 from choice stock.
Lindgren Bros
Kingsburg, Fresno Co. Cal.

East Side Poultry Yard
Barred Rock and Buff Orphington Eggs
Chicks hatched to order. We have taken the most care in procuring pure stock, also selec by the "Hogan System". Visitors and corr pondence solicited.
E. J. Look No. 16 Hancock S E. San Jose, Cal.

S. C. Rhode Island Reds True Red Ya
Four pens, headed by Red Ranger, Red Flam Red Scout, Red Cloud. Eastern winners. Eg standard utility, $1.50; select fancy, $2 for 13; ut ity stock, $2. A. B. WHITE, DOLGEVILLE, CAL.

WHITE AND BUFF WYANDOTTE
And Golden Sebright Bantams, prize winner
Stock and Eggs in season
M. E. Dillingham, Box 67 San Gabriel, C

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"Champion" Leg Bands 60c per 100, mailed fr
Send for poultry supply catalog.
E. E. McClanahan Co. 711 So. Main, Los Angeles, C

SHADE'S RHODE ISLAND RED
The World's best layers. Get our folder. Drop a postal to
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When writing advertisers, mention Cultivat

Successful Co-operation

BACK in 1886 the writer of this landed in California just before the big boom. Oranges were as ood as gold, bringing to the orchard- t two to four dollars per box. After e boom was over and speculating in al estate was off, we settled down to lanting orange trees on the land left s the legacy of the boom.

Those trees came into bearing about 0. The fruit didn't bring $4. It did- 't bring $3. Worse yet, some didn't ven bring enough to pay freight, and ll some got was "red ink." The wri- er never got the red ink price, but id get a price which did not begin to ay for the care of the orchard.

One year, two years, three years the ame heartbreaking conditions, until a llow dreaded to go home to face his amily with the report that comforts xpected with the "next crop" must till go over another year.

Yes, things were blue, hearts were ching. while packers and shippers ere getting rich, some laying founda- ons for colossal fortunes.

One day word came that a man by e name of Chamblain, of Riverside, ould speak on the subject of co-op- ration in marketing our fruits. "Ev- rybody come."

A so-called co-operative organization ad just ended its existence because f being mismanaged, so that it was s bad as the packers for the grow- rs. This did not give special impe- us to organizing a new concern, but esperation compelled it.

Chamblain presented his case, many f us joined and formed what in time ecame the California Fruit Growers' Exchange, and for 15 years that or- anization has marketed nearly half f the fruit of California, though in he second year of its existence it andled only 23 per cent. of the crop. n the year 1905-06 the exchange andled 48 per cent.; 06-07, 55 per ent., and the coming year will show still greater percentage.

Why has it grown so?

Listen! Last year this organization old for its members fruit which rought the enormous total of $12,- 50,000.00 and on that amount there was not a dollar of loss. The year efore—05-06—$9,936,497.67, on which here was not a dollar of loss. While uring the year 04-5 there was a loss f only $310 on a $7,123,962.54 busi- ess.

In addition to the packing and marketing of the fruits of its growers, the Exchange has been foremost in all he transportation and tariff matters hat affect the citrus fruits industry. In tariff, the cent-a-pound duty on im- ported citrus fruits was obtained with he active assistance and co-operation f the entire Exchange membership. In transportation, the somewhat re- duced icing charges, the reduction of he lemon rate from $1.25 to $1.00 per hundred pounds, and the reduction of the orange rate from $1.25 to $1.15 per hundred pounds, were brought about either by the Exchange alone, or with the assistance of other interested non-Exchange growers through the Citrus Protective League.

It must be noted that the Exchange is not a trust in any sense. It neither seeks to control production, nor arbitrarily to fix prices. It does, of course, undertake so far as possible by a simple method of co-operation, to displace the competition of one grower with another in the matter of packing and marketing their fruit. By purely economical, as distinguished from trust methods, it insures to every grower the full reward of growing good fruit, and to every association the benefit of good grading and packing.

It has carefully guarded the growers' interests in tariff and transportation matters in the past and growers must largely look to the Exchange in the future for further relief and protection in these matters.

It must be remembered also that the economies that have been effected by the Exchange in the packing and selling of the fruit it controls have been large factors in reducing and holding to a reasonable basis the expense and charges for packing and for selling services to such growers as are not affiliated with the Exchange and who sell through speculative shippers.

The Exchange was founded upon the theory that every member is entitled to furnish his pro rata of the fruit for shipment through his associations, and every association to its pro rata of the various markets of the country. This theory reduced to practice gives every grower his fair share, and the average price of all markets throughout the season.

Another cardinal provision of the plan was that all fruit should be marketed on a level basis of actual cost, with all books and accounts open for

Continued on Page 167.

Trees and Vines
for profit and adornment
Roses and Plants
that please and beautify
Write for our new illustrated Catalog descriptive of the leading California Fruits, Roses, Ornamentals, Eucalypts and everything for the orchard, avenue and garden.
Armstrong Nurseries
Ontario, California

200,000 Eucalyptus Trees in Variety
Transplanted in flats of 100 each. We prefer orders of 1000 rather than 10,000; outside limit 20,000. Our trees are up to our usual standard. We invite correspondence. Our booklet, telling when, how and what to plant, free to our patrons only. Address
W. A. T. Stratton, Nurseryman, Petaluma, California

Of Course You Are Interested in Gas Engines
You would like to know how they are constructed, how to take care of them. You can't afford to be without our booklet, "THE GAS ENGINE AND HOW TO CARE FOR IT." Write for it and save yourself money. (Send five cents in stamps.)
Federal Gas Engine Co.
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CHAS. C. NAVLET CO., Inc.
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OFFERS
Nine Sterling Potatoes
4c Per Pound
Special Prices For Large Quantities
Purchaser to Pay Transportation
Oregon Burbank White Top, Oregon Burbank Low Top, Oregon Garnet Chili, Salt Lake Peerless, Oregon Round Peerless, Red Early Rose, White Early Rose, Early Jackson, Early Champion.
We assure you that the seed Potatoes we send out will be not only the best we can supply, but the best to be had from any source at any price. To that end they will be not only strictly true to name, but hand sorted, selected stock such as any one will be proud to plant.
Tomato Seed
Our stock this year is extra choice selected seed, sure to produce crops that will pay.
We offer the following selected varieties:
GOLDEN QUEEN, the finest of the large, yellow tomatoes.
LIVINGSTON'S PERFECTION, a standard early tomato.
TROPHY, a large and delicious tomato, used almost entirely by the canneries and a very profitable one for the home garden.
NEWSTONE, a grand tomato for canneries and home garden.
EARLY DWARF CHAMPION, very early for home gardening use.
PONDEROSA, almost seedless, a grand tomato for canneries and home gardens.
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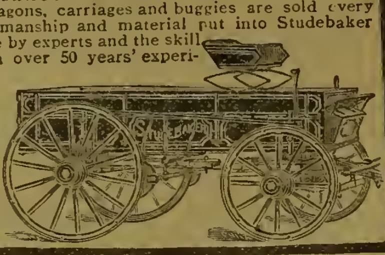

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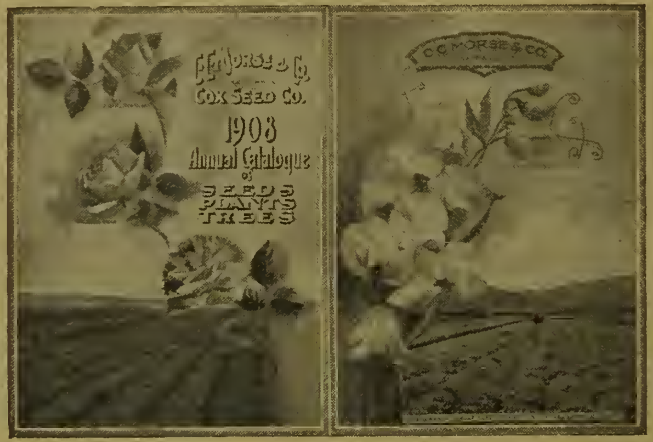

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San Jose, Cal.

Pruning the Lemon

Written especially for the California Cultivator.

BY B. J. JONES, SAN DIMAS.

Mr. B. J. Jones, of San Dimas, who gives of his experience on pruning lemons, i the following article, has been with the Department of Plant Pathology of the Stat University for three years as a field expert in both deciduous and citrus fruits. H has just completed eight months of work as a field man of the San Dimas Lemon As sociation, assisting with the various details of field culture and working with the d eases and pests. Mr. Jones has furnished several articles for Cultivator readers.

THE pruning of lemon trees goes into the category with fertilizing, cultivating and other details of field practice which are a part of the great commercial scheme for increasing productiveness. Few can afford to trim orchard trees for the sake of appearance, but for the sake of increased production few can afford to withold it. Long ago it was recognized that this was of enormous value in aiding the setting and developing of fruit. With this object in view many systems and details have been worked out and every possible variation is now in evidence.

At present there is a great tendency to increase summer production by reason of the better prices prevailing at this time of the year, and in connection with fertilizing and other practices, the pruning has come to be regarded as an important factor in bringing this about. It is certain from experience that an unpruned lemon tree while bearing more or less throughout the year, has a tendency to mature its greatest crop during fall and the winter. Since one of the objects of pruning is to break up the natural tendencies, the time and method of doing it is a most promising field for a readjustment which will increase the output. This proposition has already been exploited by many growers, and often with considerable success.

So far a general rule is not available, and it is probable that it never will be, for north and south, coast and interior lemon growing communities will demand a considerable variation as they do in other details of culture. It appears that this is a problem for each community, and also for each of the commercial varieties of fruit, and should be studied by each grower with reference to what others are doing along these lines and a later adaptation to his particular neighborhood.

Four Systems.

A study of past and present methods of training lemon trees shows what we may call four types or systems: The old upright method, the open center, the flat top and the higher top with excessive growth thinned out. The first of these has, of course, been discarded, and the only examples we have of it are the old trees in small blocks or in yards, standing tall and stately and upright like ancient apple trees, the lowest fruit nearly out of reach and the highest often twenty feet higher.

The typical open center has nearly disappeared also, and diligent search is required to find good examples of it.

The flat-topped tree is a direct reaction against the old scheme, and is intended to keep the entire tree within reach from the ground, or at most, from very short ladders. This may be called a shorn tree and can then be made to include the rounded top, for there is every variation between the two, and the object is practically the same. Extremes of this style show trees shorn across the top as low as six feet from the ground. There is a constant struggle to produce suckers and vegetative gro from the top and the tree soon comes as dense as a thatch, its fru ing wood dangles at the sides like weeping willow, and much of th fruit reaches the ground before coming to size, and is a constant prey t brown rot.

Evidently, the desire of the builde of such a tree is to have the frui entirely within reach, literally stickin out to be clipped off easily and rapid without the use of ladders or othe hindrance to the pickers. It doe not seem to be natural for fruit t grow thus entirely exposed, for it seldom found that lemons protrud from such a tree in the profusio necessary to get a good yield, for th actual bearing surface is small, an what few do venture into such exposure are likely to be burned by th summer sun. The advantages of low a tree are more than offset the disadvantages, for there is nc sufficient bearing surface until it very large, and this must come late ally, causing it to occupy mo ground than is warranted under pre ent conditions. Much of the fruit lost or injured in quality by conta with the soil, and there is much lo through rot. A comparison of th tree with the old style, also gives good lesson in gum disease, fo while there are very few cases o curing on the former the latter is u usually susceptible. It is nearly im possible to work the soil under it thing which is imperative in the co trol of this trouble.

The Best Plan.

The best growers, and especial those who have the Eureka, find profitable generally to keep an op tree, not too low, into which the su can penetrate and which will produ fruit both inside and out. Indee many claim that the best grades lemons are produced on the insi of the tree. Such a tree will r need to be "shorn" when it is pru and will shade itself sufficiently protect its outside fruit from burni by the sun. Some top cutting mu of course, be done, for picking fr the top of an unpruned tree soon comes almost too slow to be pr able. There are groves twelve ye old where the thinning method been properly practiced that picked throughout from six-foot l ders. A part of the method, w properly practiced, is to keep lower limbs cut away so that non the fruit touches the ground.

On heavy soil where it is necess to spade about the trunks, t makes it possible to cultivate mu farther under the trees, and thus duces hand work to a minimu This, and the fact that the lin have been thinned and the fran work branches properly trai makes it possible for the pickers see fruit that has come to size, remove it quickly and convenien The bearing surface is large, though some of it is out of re from the ground, it all receives s shine and a free circulation of

Experts who are working on these things with special reference to brown rot and gum disease, report that the trees do not need to be pruned up as in the old method. It is merely necessary that the lowest limbs should clear the ground well when heaviest with fruit and thus admit a good circulation of air, summer cultivation directly to the trunks and, in the winter, a good growth of cover crop well under the outside branches as a protection against brown rot. The damage being done annually by these diseases shows them to be of no small importance, and every detail of pruning or other practice, which will tend to alleviate either, must be sought after and applied.

A Double Decker.

It is, of course, important to produce as much fruit as possible from each acre of land occupied. Now, it is evident from dear experience that when a tree's growth is entirely forced out laterally, it must be placed at a greater distance from its neighbor, if any considerable bearing surface is to be obtained. On the other hand, if some of this bearing surface is put into another "deck" it is at once enlarged without loss of room, and it is only necessary to keep this sufficiently open to produce fruit both inside and out, thus giving vent to the natural growth without excess and at the same time getting the greatest possible fruit bearing wood by proper thinning and cutting back to a certain height. Many growers have planted their trees within twenty feet, or on the quincunx or septuple systems, expecting later to take a portion of them out, and some of these have learned that it is not profitable to do so, for where there is a proper height to the trees this brings about greater per acre production than to allow more space per tree and attempt too much lateral expansion.

A Re-action.

The Baronio system, whose principle is slow, steady circulation, avoidance of a "rush of sap," and elaboration of food materials by branching and lateral extension of limbs, has been practiced with considerable success for a number of years, or while the majority of groves in California were in their younger stages, for they have all practically grown up together. Its success with these growing trees is natural, since it is famous as a scheme to hasten bearing and delay wood growth. The cause of the present reaction, or rather extreme modification of this system seems to be manifold. Primarily, there is a desire to save acreage as much as possible. Most striking, however, is the apparent incongruity between the extremes which have become common and the actual demands of the trees. With this scheme, as with all others, it is necessary to keep out water shoots or suckers and throw the strength of the tree into fruit. But the trees are now stimulated abundantly with fertilizers, (and especially with stable manures and cover crops, which increase, vegetative growth) and with cultivation and irrigation, and the result is that there is a perpetual contest between the tree and its pruner. He is not willing to allow enough top to properly balance the root system, and no amount of coaxing can compel it to consistently make up for a deficiency in vegetative growth with fruit. This is one of the last efforts of a reproductive nature, and is much more likely to occur where the roots themselves are injured, as is often seen in the enormous fruit production of gophered trees.

With pruning, as with other problems, the extremes are the result of the working out of a theory, and it is

Continued on Page 179.

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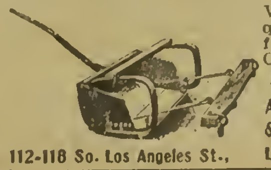

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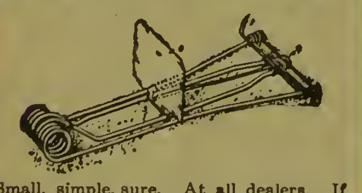

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Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Curl Leaf.

Please tell me through the Cultivafor the best spray for curl leaf on peach trees; give formula, method of mixing and time for applying and oblige.—A Subscriber.

Apply the Bordeaux spray before the leaves appear or buds swell. The 5-5-50 formula is usual, and for the benefit of those who do not understand it, it will be given more fully later. It has been given several times during the past year.

Pruning Grapes.

Kindly inform me regarding pruning of Mission, four years old. Also Mataro and Zinfandel. When is the best time to prune for fruit—early or late? What kind of grape would you recommend to plant in adobe land two and one-half miles from Santa Rosa?—Subscriber, Santa Rosa.

These varieties are short pruners and should have about five or six branches which should be pruned back to two buds each; that is, the new wood should be so pruned.

See the leading article on deciduous page of last issue. The last point will be answered by Mr. Mills later.

Bordeaux on Grapes.

Will Bordeaux mixture injure grape vines after they have budded out?—F. C., Lodi.

It will not provided enough lime is added so that it will not show a copper deposit on a polished knife blade after it has been held in the mixture for a few minutes.

Manzanillo Olives.

Can you tell me where I can purchase Manzanillo olive trees?—W. Weitekamp, San Diego.

Any of the nurserymen who advertise in the Cultivator, can furnish you with Manzanillo olive trees.

Potato Fertilizers.

Can I plant potatoes in soil that has been manured lately? I intend to use sugar lime very soon. This land is an orange orchard budded over. The buds are two years old. I intend to put a few rows of potatoes between the trees. The soil is good. How soon can I plant them and what kind would you recommend?—John Koch, Monrovia.

I see no objection to planting potatoes in freshly manured ground. If the lime was spread over the ground and the whole thing ploughed under, the lime would greatly aid in decomposing the manure and rendering it available for the potato crop.

If this has been an old orange grove—that is, if the trees were of considerable size before budding over—care must be had not to attempt to grow too many rows of potatoes between each row of trees. It will result in the trees robbing the potatoes.

The White Rose is an excellent potato and while not of quite as good quality as the Early Rose it is a very handsome potato and sells well. It yields better than most varieties.

Plant any time now—the sooner the better. There will be little likelihood of danger from frost, and it is a good advantage to have the benefit of the rains.—Q. A. L.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Onions.

What variety of onions would you recommend as best adapted for field culture in this locality. Would you advise planting seeds or sets? Do onions require as frequent irrigating as potatoes? What treatment is necessary to prevent them from going to seed?—W. G. G., Hemet.

The Australian Brown is perhaps the best onion to grow. It is a fine keeper and popular with the dealer.

We would prefer to plant the seed. They should be planted any time now that it can be done. This gives the good growing months of spring for making crop.

The only rule that can be given for irrigation is that it shall be frequent enough to keep the plants in constant, active growth. At no time allow the ground to get so dry as to check the growth. It will be evident that the character of the soil, the frequency of showers and the thoroughness of cultivation will enter into the problem and be important factors in determining how often to irrigate.

If the seed is of high quality—that is, produced from perfect, well ripened bulbs, and the cultivation such as should be given, there is little danger of them going to seed. On the other hand, if the seed is poor in quality I know of nothing to prevent them from runing to seed, at least a very large percentage of them. Beware of cheap onion seed. Good onion seed is always expensive—there is no short cut method of producing it.—Q. A. L.

Strawberry Planting.

Will you be kind enough to advise me regarding a proper method for the planting of strawberries. I am about to set out 5000 plants and find, in making inquiries about the necessary preparation of the ground, that there is considerable diversity of opinion as to whether to plant flat or to hill up and how much of a hill to make. Also I propose to plant in single rows three feet apart, the plants to be set one foot apart in the rows; this to avoid hard work.—J. O. VanBrakle, Lindsay,

This query with others will be answered by Mr. Lobingier in the Garden Department of next week's Cultivator.

PREPARING SKINS FOR MARKET.

The following directions for pulling wool from sheepskins and pickling skins for the market were some time ago given by a practical tanner in Hide and Leather: Soak skins and flesh clean. Make up a paint as follows: Slake 25 pounds of lime and use just enough water to cover it. Dissolve 25 pounds of sulphide of soda in 10 gallons of water. Mix the lime and sulphide solution together and paint the flesh side of skins and fold the skins together, flesh in. Lay in a cool place for 24 to 36 hours, when the wool can easily be pulled and washed in clean cold water. The skins are washed to remove the sulphide paint and then placed in a weak lime for two days. They are then washed again and bathed in a bran bath and pickled as follows: For each dozen skins use three-quarters pound of sulphuric acid, eight pounds of salt, 10 gallons of water; leave skins in pickle 12 hours. They are then piled down in smooth piles for 48 hours, when they will be ready for market.

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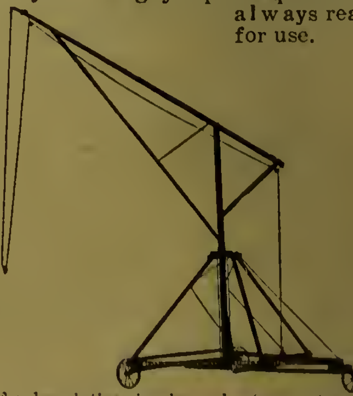

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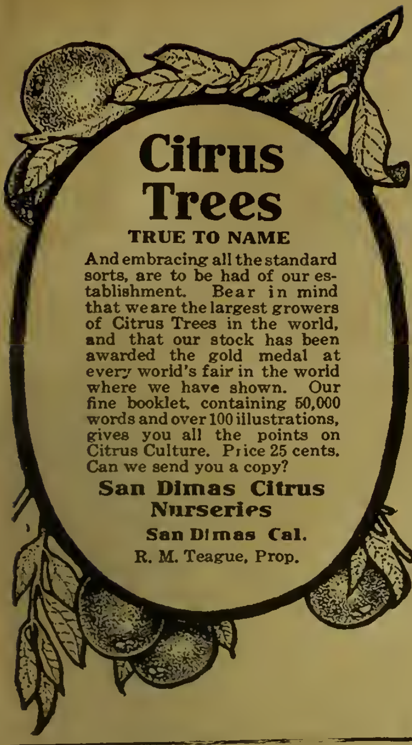

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THE GREATEST OF CO-OPERATIVE MARKETING ASSOCIATIONS.

Continued from Page 163.

inspection at the pleasure of the members. These broad principles of full co-operation constitute the basis of the Exchange movement.

The Exchange system is simple, but quite democratic. The local association consists of a number of growers contiguously situated, who unite themselves for the purpose of preparing their fruit for market on a co-operative basis. They establish their own brands, make such rules as they may agree upon for grading, packing and pooling their fruit. Usually these associations own thoroughly equipped packing houses.

All members are given a like privilege to pick and deliver fruit to the packing house, where it is weighed in and properly receipted for. Every grower's fruit is separated into different grades, according to quality, and usually thereafter it goes into the common pool, and in due course takes its percentage of the returns according to grade.

Any given brand is the exclusive property of the Association using it, and the fruit under this brand is always packed in the same locality, and therefore of uniform quality. This is of great advantage in marketing, as the trade soon learns that the pack is reliable.

There are more than eighty associations, covering every citrus fruit district in California, and packing nearly two hundred reliable and guaranteed brands of oranges and lemons.

The several associations in a locality unite to form the local Exchange, which serves as a medium, and to a certain extent as a buffer between the associations and the general Exchange.

Questions of purely local interest, and many real or supposed grievances are disposed of in the local Exchange, and through it more important matters reach the general Exchange.

The California Fruit Growers Exchange, referred to above as the General Exchange, consists of thirteen stockholders, all directors, and all selected by the local Exchanges. In other words, the several local Exchanges designate one man each from their membership as their representative, and he is elected a director of the California Fruit Growers Exchange. By this method the policy-making and governing power of the organization remains in the hands of the local Exchanges.

From top to bottom the organization is planned, dominated and in general detail controlled absolutely by fruit growers, and for the common good of all members. No corporation nor individual reaps from it either dividends or private gain.

This organization has not only been profitable to its members, but has saved the greatest fruit industry of the State.

A movement is on foot all over the northwest to use elevators instead of sacks in handling grain. Some growers maintain that the highest success will never come to the industry until that economy is practiced.

Seventy-five thousand bales of hops were shipped from Oregon, from September 1st. to December 31st. The greatest amount being in the month of December, which was 30,000 bales.

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Citrus Fruits in the North

Written especially for the California Cultivator.
BY JOHN ISAAC, SACRAMENTO.

John Isaac is secretary of the State Horticultural Commission and is a regular contributor to the Cultivator. He s known to many also through his aiding in the work of the State Fruit Growers' Conventions for years. Mr. Isaac has had several important missions to other sections in making special investigations of the orange maggot in Mexican orange groves. He gives below a view of Northern citrus conditions.

ORANGES have been grown over a very large part of Northern California from a period very soon after the American occupation, and a tree is still shown at Bidwell's Bar, in Butte county, which it is claimed is the pioneer of the citrus industry in this portion of the State. This tree was grown from a seed from an Acapulco orange in Sacramento in 1855, but was transplanted to its present site in 1859. This demonstration that oranges would grow in Northern California led to other plantings, but these were more for curiosity or for ornamental purposes than anything else, and it was never dreamed that citrus fruits could be grown profitably until many years after.

A PRICELY CITRUS GRO

Every County in State.

The building up of the enormous citrus industry of Southern California, however, turned the attention of the Northern fruit growers in the same direction, and the door-yard trees scattered all over the state served to demonstrate that with proper attention the orange and lemon would thrive very far north of the Tehachepi range, and we know now that there is not a county in the State, outside of the mountain sections, where these fruits will not grow with more or less success in some portion. Every county in the San Joaquin and Sacramento valleys, from Kern to Shasta, produces some oranges, and the same is true of all the coast counties up to Mendocino. Not in all of them is this fruit grown commercially, although very many are now shipping fruit to market and several of the Northern citrus fruit sections have grown into great prominence in the past decade. Not all of the land in the valleys named is suitable for the culture of citrus fruits, but there is still a vast area of land in California upon which oranges and lemons can be produced and which is now used for other crops or for pasturage. The principal sections now planted to citrus fruits are located in the foothills of the Sierra Nevada mountains. Here the soil is largely a loose, gravelly loam, well drained and high enough above the floor of the valleys to escape damaging frosts.

Tulare County.

The principal orange producing sections north of the Tehachepi are Porterville, and its surrounding sections, Lindsay, Exeter, Lime Kiln, Orosi, and other towns, all of which are in the same section. The growth of the industry in this part of the State has been almost phenomenal. It took a start some ten years ago, when a few orchards which had been planted around the town of Porterville came into bearing. In many places here it is absolutely free from frost, and citrus trees did remarkably well. Soil and conditions were all favorable, and the trees bore early, gave heavy yields and the fruit ripened sufficiently early to place it on sale in the East during the holidays. As a consequence, large prices were obtained, and a strong impetus was given to orange planting. From this, the citrus industry grew and spread until it has now become one of the great industries of Tulare county and several thriving towns have sprung up on what was a wheat field and a stock range, and these are well supported by the new industry The orange area in this part of the State is still spreading and new orchards are being planted each season, while young orchards are coming into bearing annually and adding their output to the thousands of cars of citrus fruits being sent from California to the Eastern markets.

In Butte.

Next to Tulare county in importance as an orange producer comes Butte county, and here, around the city of Oroville, and in the sections of Palermo and Thermalito, there are very extensive plantings of citrus fruits and heavy shipments are made. Like the Porterville region, this is a favored location, being well above the ey floor and getting up toward the hills of the Sierra Madre range. fruit produced is of excellent ity, good size and begins to ripen October, so that the growers have advantage of the early market.

lacer county produces a great deal citrus fruit and markets a heavy each year. There is no well de- d citrus section here, but numerous ge groves are scattered through foothills. The earliest shipments ruit were made from this county past season, and the greater part he crop was sold for shipment to tralia.

acramento county has two impor- orange growing districts, Orange- and Oak Grove, both thrifty little ns supported largely by their citrus lucts. In all the counties of San quin and Sacramento valleys there scattering orchards of oranges and ns all adding their quota to the s output of the State, but the e are the chief sections devoted growing oranges commercially. ugh has been done along this line, ever, to demonstrate that should market ever demand the fruit, e are tens of thousands of acres his part of the State which can be oted to citrus fruits.

TRAL CALIFORNIA.

Courtesy San Dimas nurseries.

't Understand.

is a matter which no Eastern per- and many of our Californians, understand that oranges can be vn so far north as Shasta county, veen six and seven hundred miles h of Los Angeles and in the lati- of Ohio Pennsylvania and New ey In the East there is a con- ll lowering in the tables of tem- ature for every mile from south to h California, over its whole gth has practically the same cli- e, modified, it is true, by local con- ons and the temperature in this e is rather modified by altitude n by latitude. It is this fact that es possible the cultivation of citrus ts over so wide a range from south orth Another matter which is d- lt to understand is the fact that us fruits ripen and are marketed ier in the North than in the South. e can be accounted for by the to- raphy of the two sections. In the thern orange sections the whole ntry is open to the Pacific Ocean, even in the most remote sections temperature is modified by the an winds. There is nearly always ery much lower degree of heat ing the nights than during the s. In the interior valleys the influ- e of the ocean winds is shut off by intervening Coast Range of moun- s and the nights are much warmer n those of the South. As a result fruit grows more rapidly, receiving checks from cold nights, and ma- es and ripens earlier than that of South.

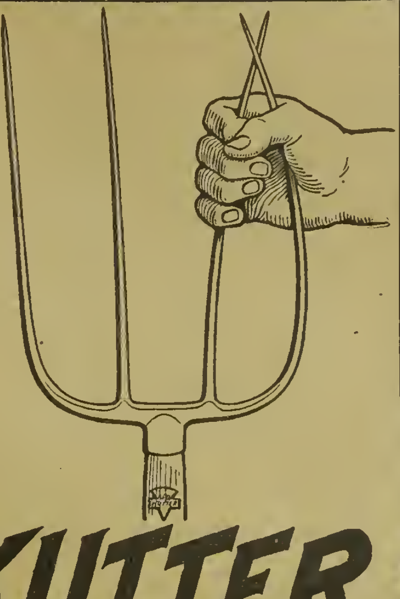
Not Competitors.

There is very little prospect that the northern counties will ever become serious competitors with the south, for in the latter section citrus culture has become a science and is so firmly established that it need fear no disturbance, but for all that, the growth of the citrus industry has been, and still is, making rapid strides. it has been only during the past decade that it has attracted attention. Prior to that time the production of oranges in the north on a commercial scale, was a standing joke with many of the papers of the south, and the proposition of growing oranges north of the Tehachepi was regarded with incredulity by many of the leading growers of the south. But the success along this line made by Tulare county and on a lesser scale by Butte county has demonstrated what can be done along this line, and every season sees larger and larger outputs of citrus fruits from the north. The first shipments, of course, were trifling, amounting to a few cars only. These soon expanded to a hundred, then several hundred, until three years ago the output from the north was in round numbers 2000 cars. In the next shipping season this had reached nearly 3000 cars, and last season the figures nearly touched the 4000 mark. It is now estimated that the present season's output will come close to 6000 carloads, and these figures will increase as the new orchards which have been planted during the past five years, come into bearing and the older ones reach their full bearing capacity.

There is one great advantage that the northern citrus grower has and that is in the early ripening of his fruit. The great bulk of the crop in this section is off the trees and marketed before the holidays and it catches the holiday trade, bringing very much higher prices than that which comes in later. Another great advantage, possessed by the northern grower, is that his fruit is all off the trees before any extreme cold weather comes, and loss from frost is unknown. for in the north, as in the south, there are always chances of freezes from December to March.

All Over This State.

There is no question but that, if the markets will warrant it, the orange area of the northern counties will be largely extended, and even at the present time, there is a steady growth, and there is a vast area of land suitable for citrus fruits as yet untouched in this State. It may be safely stated that the entire foothill range of the Sierra Nevada mountains, from Kern to Shasta, is suitable for citrus fruits. This, of course, with the understanding that water is available for irrigation, and that there are numerous locations where the soil is unsuitable. Aside from this, however, the orange can be profitably grown over the larger part of the whole State.



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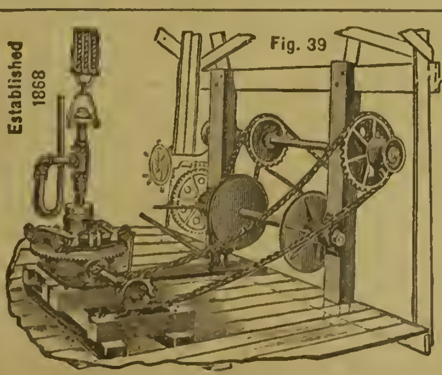

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CALIFORNIA'S CITRUS SECTIONS.

The wonder of the Easterner is created by the fact that sections in California nearer the North Pole than is Indianapolis, Columbus, Philadelphia or Washington are successfully growing oranges and lemons. And again that all the way down the State to the Mexican border, over 600 miles from north to south, almost the same condition prevails, until the enormous total of 30,000 cars, or nearly 2000 trains, six trains per day the year through, of the golden fruit are spared from our own consumption and shipped to the orange lovers of the East.

From this vast output of California's pride the East sent of its good coin last year between $25,000,000 and $30,000,000. These figures are almost too vast to grasp and effectually dispel the charge often made by our critics that our only asset is climate and the "easy-mark" tourist.

California is daily showing its actual production to be increasing and this power will continue to increase each year.

With the shifting of the center of this country a little this side of the Adirondacks to this Coast and with the whole United States facing westward, the country is taking notice of the importance of this section and that it is a great factor in the productions of the United States.

The greatest of our fruit productions is the citrus. The possibilities of its future development are not fully appreciated. While as yet the section south of Tehachepi is the great factor, there are possibilities hundreds of miles to the north. Butte county has hundreds of acres planted and for several years has been sending out fine fruit. This year much of her fruit went to Australia.

Sacramento and other near-by counties have done but little shipping as yet, but some sections will later be heard from. Fresno and other counties near are only beginning to develop their latent possibilities along this same line.

Tulare sent this year over 2500 carloads, and is the strongest commercial factor in this industry north of Tehachepi.

Southern California comes in with its enormous total of nearly 28,000 carloads. The field which produced that fruit is daily becoming larger. For instance, within the last year the great Imperial and Coachella valleys have promised the earliest oranges in the world, as they are now producing the earliest cantaloupes.

On the other hand, some sections very close to the ocean which were once thought to be so much affected by ocean influences have shown a great producing power, especially with lemons and the Valencia orange. From Santa Barbara to San Diego some of the finest oranges and late lemons shipped out of this State have been produced. These oranges, ripening the latest of any, extend the season until shipments of oranges are made every day in the year.

The orange and lemon are native of the foothill regions of India and are found in their wild state at an elevation of 4000 feet. Yet their cultivation for centuries upon the islands and along the shores of the Mediterranean has undoubtedly changed their nature and adapted them to conditions different from the lands where they originated.

The oranges from the ancient port of Jaffa were at one time thought to be the finest oranges in the world. They were grown largely near the coast. The lemons of Genoa, Mentone and Nice are exceptionally fine, yet are grown near the sea in a latitude of 44 north.

So it would appear that in the future we may look to see our foothill lands near the sea, planted to citrus fruits, which will vie in quality and quantity, with the more remote sections of the State.

GREATEST FRUIT GROWERS' CONVENTION.

The next State Fruit Growers' Convention, which is to be held in Riverside, is bound to be a great event in the fruit growing history of this State. In the first place, the efficient work of Commissioner Jeffrey and Secretary Isaac, is to be supplemented by a strong working local committee at Riverside, of which the old veteran J. H. Reed, is the head. Mr. Reed has said: "It is my ambition to help make this the largest and most important gathering of fruit growers ever held on the Pacific Coast. The mark is set at not less than 500 delegates from all parts of the State. Outside of an attractive program, continuous hard work of our local committee will be given to make it a sucess."

Riverside is an ideal convention city. It is progressive and up-to-date. It will be an education to fruit growers to go there. Let plans be made now that nothing shall interfere with attendance at this thirty-fourth State Fruit Growers' Convention.

It will be held about the first of May.

GREATER THAN OUR GOLD.

The California Board of Trade sends out a statement which most people will be surprised to read; it is that the average yearly product of the soil of the State amounts to $261,000,000, while our mineral wealth is but $135,000,000. In the latter estimate the product of coal and cement, lumber and other forest outputs are embraced.

Last year we shipped, according to this statement, 27,487 carloads of citrus fruits worth about $34,000,000. This is twice the output of gold mined in the State and a living proof that the wealth of the California lies in her cultural crops rather than in her buried treasure. We wonder how long it will take people to find this out?

HORTICULTURAL QUARANTINE SERVI

The horticultural quarantine service at Francisco seems to be having its hands full tl times inspecting and destroying diseased fı vegetables and trees. Edward M. Erhorn, deı horticultural commissioner, stated to the edito the Rural Press, recently, that the commissior stroyed 13½ per cent more shipments receive San Francisco in 1907 than in 1906. This, tc exact, and to quote Mr. Erhorn, "was due to finding of a new pest in the apple shipments f the Puget Sound country, a new disease in oni and the condemnation of all Japanese orange fested with cladosporium citri—a fungus w causes ugly blemishes on the skin. One shipn of 6005 boxes of apples from Bellingham, Wa was shipped back, and in one instance 2424 bc of Japanese oranges were carried out to sea dumped. A number of other shipments had tc destroyed for one cause or another. The re shows that during 1907 there were received San Francisco from 250 steamers 61,642 bo crates, packages, etc., of fruit and vegetables 616 of trees and plants; 3458 cases, crates boxes came by rail, and 1180 loose lots were amined. Of the total number 10,329 were stroyed."

If the same degree of vigilance is exercised the said commissioner, and we have no reasoı believe otherwise, there will be far less per c of diseased fruit and trees in California in future than there has been in the past.

The estimates of the United States Depar of Agriculture show that nearly 2 per cent l land was seeded with wheat in the United S the past fall than in the previous fall. The a age condition of the crop, December 1, 1907, reported at 91.1 as compared with 94.1 on Dec ber 1, 1906, and a ten-year average of 93.

Civic societies ought to be at work in ev big and little town in California perfecting pl for beautifying the localities in which they e This is the month to push the campaign for m beautiful surroundings, good roads, etc.

Shop Talk

THE NEW POSTAL RULE.

The Postmaster-General has recently ma new ruling, to go into effect in the near fu and which is aimed to regulate subscriptions all publications.

The Cultivator comes under this rule, of co and must be governed by it to the extent tha affects weekly papers.

The substance of the mater is that such wee papers will not be allowed to go through the n at the usual postal rate if the subscriber is o a year in arrears. The measure has caused c siderable comment, both favorable and unfa able, from publishers, but we notice that the tent of their criticism is usually regulated b legitimacy of their subscription list.

There is no doubt, however, that the mea will be a protection for every honorable lisher, subscriber and advertiser, and we d to say that the **Cultivator** is in entire s pathy with the order. We contend that a str paid-up circulation of 12,000 is worth as m to an advertiser and publisher as a circula of 50,000 composed of people who never or the paper and in a great many instances ne open it nor look at it.

The **Cultivator** is now practically on cash-in-advance basis and the ruling will not fect our business other than that in future cannot be as lenient to subscribers who are arrears. It is not our desire to work a hards on even these, but it will be necessary for s to pay up as rapidly as possible in order to a inconvenience by way of increased cost or s page of the paper. We shall endeavor in fu to notify our subscribers of the date of exp tion, either by an agent or direct from this o We shall also appreciate close atention to date label on the paper and prompt remitta

To the subscription manager a prompt re tance is an indication of interest in the pa which is very encouraging.

gricultural Notes of the Pacific Coast

Northern California

he Cloverdale citrus fair opens t Tuesday.

number of colonists are cultivat- land in the neighborhood of lley.

'oodland sheep growers hang lan- 's near their sheepfold to frighten coyotes.

olusa county cotton is being ex- ted in the East, and attracting h attention.

he upper Sacramento Valley has ived a total rainfall ranging from o 15 inches.

number of farmers at Williams e combined to experiment in the ting of sugar beets.

'er one hundred thousand scions Hungarian grapes have been ped from Santa Rosa to one firm 'rance.

he management of the Petaluma ltry show ended its season with .17 in the treasury, which is a l showing.

he California Fish & Game Com- sion have decided to introduce garian partridges and release in a county.

he levees along the Sacramento the city of Sacramento are to be ngthened, the State bearing one- d the expense.

he fruit men near Lincoln are re- ing in the cool weather, wh prevails, as it retards the bud- of the trees.

any California black walnuts hav- been planted along the roads of a valley will be later grafted softshell walnuts.

acramento County Development ociation reports that crops will be er through the valley this season n for many years.

ineyardists near Gridley are mak- arrangements for extensive stak- up of the vineyards hoping to e easily control the mildew.

erkeley dairymen are being given ard run by the Health Board of that putting up to them what they m to be unreasonable require- its.

ecretary Isaacs of the State Com- sion of Horticulture is compiling w edition of the State horticultural s and county horticultural ordi- ces.

he longest period of constant ifall that has occured in the mem- of the oldest inhabitant, is the ort of the recent Sacramento val- storm.

he Klamath irrigation project, ch will aid irrigation in a vast ntity of land in Southern Oregon Northern California, is being aid- by land owners of these sections.

he officials of the Hamilton Beet ar Factory now estimate that they have contracts for over 7000 es of beets. They had hoped to ire the planting of over 10,000 es.

farmer near Anderson is making horough and businesslike experi- nt of farming along the line of the tern farmer, having some orchard the greater part of a 70-acre ch in alfalfa and grain. His in was stored and is just now be- threshed.

Central California

Porterville is to have a forty-acre park.

Tulare total rain to date is 6.06 inches.

Sanger had a fine farmers' institute last week.

Lindsay has shipped about 900 cars of oranges.

Salinas has had 6.71 inches of rain this season.

San Joaquin Valley had an inch rainfall during the recent storm.

County Entomologist Volck is preparing a bulletin on codling moth.

Modesto is now promised a cannery in time for the next season's pack.

The Kearney estate is soon to be transferred to the State University.

The cantaloupe shippers at Turlock are planning for a big season this year.

The Salinas Index is appealing for reservoirs for the saving of the waste water.

The raisin market seems to be very quiet at the present time, and the packers are now offering in the neighborhood of $70 per ton for last season's crop.

So much good material has been supplied the Cultivator for the Special Citrus number, that some of it must of necessity be held over till next week. Mr. James Mills' article will be continued.. Mr. Teagues with additional illustrations will be finished next week and other good citrus matter including a couple of articles on oranges in Butte county and on citrus culture in Tulare county.

An immense number of orange trees is to be planted about Lindsay this spring.

The new Corcoran sugar factory will this year handle beets from about 6000 acres.

Onion growers near Modesto have made stacks of money on their onion crops this season.

It now appears that Visalia will be the place of holding the next Tulare county citrus fair.

Salinas seems to be producing nice new potatoes the year round and is now marketing new spuds

Scandinavian Mutual Fire Insurance Association of Fresno County carries nearly $2,000,000 of insurance.

E. B. Babcock, assistant plant pathologist of the State University, is investigating fungus troubles at Salinas.

Inspector Day, of San Benito county, has condemned a shipment of young peach trees infested with the blight.

Orchards about Watsonville are being leased by apple shippers, who do this to secure their output during the shipping season.

The Tulare county citrus fair, which was held at Lindsay, has now closed up its business and finds a balance on hand of $502.

Dave Sherwood of Elk Grove received $15 for two crates of Tokay grapes shipped last season. This is the banner price of this season.

The Pacific Sugar Company has already contracted for the growth of nearly 9000 acres of sugar beets for next season's delivery. Nearly half of this amount has already been seeded and most of the balance plowed ready for seeding.

Southern California

Ventura has had 10.71 inches of rain.

A tomato grower at San Pasqual is coining money on his tomatoes.

San Jacinto has nearly 8 inches of rain to date.

Chino expects to plant 11,000 acres to sugar beets.

Redlands merchants have organized to fight the parcels post.

Heber is hoping to have an agricultural college established there.

Large plantings of eucalyptus will be made in the Yucaipe valley this year.

Santa Paula is making extensive experiments in the culture of the citron.

A Redlands nurseryman is anticipating starting a spineless cactus nursery.

McIntyre, the bee king of Ventura county, says that bees are busy workers just now.

The forest rangers, while they are having an easy time in watching for fires at this season of the year, are kept busy keeping the trails in repair.

Poultry breeders of Santa Ana are organizing the Orange County Poultry Association.

Cotton growers from Texas are preparing to establish their industry in Imperial valley.

The last meeting of the Southern California Lemon Men's Club was held at Whittier.

The cabbages of the La Habra valley will be handled by the Tustin Packing Company.

The Whittier News says that cabbage growers are now wearing the smile that won't come off.

Coachella valley is being supplied with a large number of lady bugs for work upon the melon aphis.

Holtville farmers are suffering from great losses from thousands of wild ducks making inroads on their fields.

Ventura apricot growers have been among the strongest workers to secure a reversal of the famous sulphur ruling.

Hemet marketed over $20,000 worth of olives last season, and hopes to double that amount for the present season.

Santa Ana irrigationists are taking advantage of the wet weather and are giving their canals and ditches a thorough cleaning.

Orange County Celery Growers' Association has arranged to market their fruit through the California Vegetable Union.

M. B. Molten, of Hemet, is harvesting 10 tons of olives from two acres, for which he is receiving $80 per ton. Mr. Shepard of the same place has received $500 from two and a half acres.

The Coast

Farmers at Weston, Ore., are combining and building grain warehouses.

Zero weather has prevailed at Wenatchee, Washington, during the last few days.

A government Experiment Station is soon to be established at Rosalia, Washington.

A large acreage of winter apples will be planted about Pullman, Washington, this season.

Flour mills at Tacoma, Washington, have closed down because of shortage in foreign dmeand.

At the dry farmers' congress at Salt Lake City Gov. Brooks of Wyoming was elected president.

Cottage Grove, Oregon, is expecting the establishing of a cannery before next season's fruit ripens.

A fruit grower at Coos Bay, Oregon, has found the growing of cramberries exceedingly profitable in that section.

The Dairy Development Association has just been organized at Portland, Ore., to promote more and better dairying.

Pacific Coast hop growers will meet at Pullaup, Wash., for the purpose of perfecting the organization of the Coast hop growers.

The recent poultry show at Seattle, Wash., drew an exhibit of 1000 thoroughbred birds. Plymouth rocks were the largest class.

The recent meeting of the Utah State Horticultural Society is said to have been the best meeting ever held by that organization.

Orchardists around Tulare will increase the fruit tree acreage this spring by planting about 200 acres, largely peaches and apricots.

The State Horticultural Society of Washington is planning for a mammoth apple show at its meeting which will be held in Spokane next January.

The Walla Walla Farmers' Union has contracted for almost a million and a half of wheat sacks for which the agreed price is seven and three-eighths cents.

Oregon onion growers who held their crop until the present are highly gratified at present prices. It is predicted, however, that next year's prices will be vastly lower.

There is a strong demand amongst the sheep men near Baker City, Oregon, that the county shall levy a special tax for bounty on coyotes, wild cats and other wild animals.

The Deseret Farmer appeals for the organization of the fruit growers into a fruit growers' co-operative society so as to rid themselves of the burden of the middlemen fruit dealers.

The Inland Grain Growers' Association near Pendleton, Oregon, are endeavoring to secure a reduction in freight rates which, it is claimed, is almost prohibitive from that section.

A permanent organization of the fruit growers of Freewater and Milton, Oregon, has been effected and the name of the new organization is Milton-Freewater Horticultural Society.

The Wenatchee Valley Fruit Growers' Association at its second annual convention had an attendance of 250 fruit growers. The effort will be made to conduct a campaign for better packing and more care of fruit.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

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Main Office and Factory, Petaluma, Cal., Box F.
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Eggs for Hatching

From Carefully selected purebred stock of

White Minorcas **White Leghorns**
Buff Orpingtons **Aylesbury Ducks**

For full particulars and prices on eggs and incubator chicks apply to

Coulson Poultry & Stock Food Co.
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Beef Scraps **Raw Bone**

GUARANTEED ANALYSIS:
Protein 65%
Fat 8%
Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps No fertilizer ingredients in these Beef Scraps.

GUARANTEED ANALYSIS:
Protein 25%
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Made of Clean Beef Bones, surplus fat removed. Cleanest Raw Bone on the Market.

Pure, Clean Animal Matter Poultry Foods

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EGGS FOR HATCHING

All Eggs are from good, strong vigorous stock.

WYATT & WOLLITZ, Proprietors
—Breeders of—
Single Comb Buff Orpingtons
White Rocks and
Indian Runner Ducks

Orpington and Rocks $2 per setting; $6 per 100.
Duck Eggs $1.50 per 12.
Write your wants. Correspondence carefully answered.

Box 298. **WYATT & WOLLITZ, Corona, Cal.**

Profit in the Poultry Yar

We solicit short articles of a practical nature from the fancier and utili breeder, giving their experiences with poultry. All inquiries pertaining to fee management, disease and its prevention will be answered through these column

UTILITY AND FANCY COMBINED.

WE WERE recently talking with a man who had recently attended a big poultry show. He said he had attended the show to get information in regard to the different breeds, but all he talked to showed what fine feathers their birds had. Never once did they tell how many eggs the hens would lay or how long from time hatched till they were matured ready for market or ready to lay. Said he did not believe fine show birds were good layers, as their owners never mentioned their laying qualities at all. He wanted to know if they should lay as many eggs as the common barnyard bird.

Here we have an example of one of the many who attend poultry shows for the education which should be possible there, and the exhibitors of the show neglected the opportunity offered them to explain the utility as well as the fancy points of their birds. We believe the fancier should use every opportunity offered to explain the advantages to be gained in breeding thoroughbred fowls over that of the common mongrel.

The argument this gentleman gave for not breeding thoroughbred fowls is one we hear very often. Many have decided opinions and are hard to convince that the backbone of the poultry industry is the fancy.

There is no subject connected with poultry raising that receives so many knocks, as the possibility of combining utility and fancy. Most all can agree as to size and shape; that is, they will admit that a fancy bred bird may have just as good shape and well developed carcas when dressed as the utility man can produce, but they "know" that a fancy bird will not lay as many eggs as the common bred birds

We have had the utility man come to our yards to get a male bird for crossing. He only wanted size, did not care for shape and color, yet they would invariably pick out the best colored and most symmetrical bird as the one they liked best. We only give this as an example to show that the utility man apprecriates shape and color just as well as the fancier. This only leaves two points to be considered—that of egg production and early maturity.

Egg Production and Maturity.

One of the hardest arguments we have to go against is egg production and vigor. Many insist that an ill-bred, common "go-lucky" flock are more vigorous, mature quicker and lay more than thoroughbred birds. Yet in nine cases out of ten, these same men are breeding thoroughbred live stock of some kind and insist that it is better. That is, for everything but poultry. The trouble is with the man that breeds common stock; they never know how many birds they have or how many eggs they get per year. We don't honestly believe that the average mongrel flock will average 125 eggs per year.

We positively know of birds in the American and English classes that were matured and began to lay at from four and one-half to six months of age, and Mediterraneans will begin to lay earlier, if proper care and feed be given them.

We know where egg-laying con have been made at experiment tions, that individual records been made, under State and go ment direction, that the numbe eggs run from 175 to 200 per and this with thoroughbreds. know of individual records higher than these.

If we would combine utility fancy, we should not breed fro bird unless it be from good, str vigorous stock, and from a st that had a good egg record behin

Trap Nest.

The best aid in selecting breeders and helping us to build an egg-producing strain, is to u trap nest. With the trap nest we keep individual records, and if a is not a good layer, although sh a prize winner, we would not ad keeping her simply because she a prize winner.

We know of lots of breeders, of them using our columns to tise stock and eggs, who use nests and have pens of birds records of over 200 eggs each. recentlly read of a first prize w at an Eastern show with a recor 201 eggs in a year. The man wh doing most for the industry is one that is breeding for fancy utility.

We would be pleased to re short reports of individual recor as to what age pullets began to and how many eggs per year, gi variety in each instance.

"STILL AGOIN."

On January 23 we published a munication from Mr. W. F. K., some comments on same. We published a letter from Mr. Hya Petaluma which answered Mr. W K. pretty well from a practical s point. We are glad print here a splendid communication from W. S. Sullivan, Agnew, breede Buff Orpingtons, giving the fan side of the question. Mr. Sul has been breeding thoroughbred twenty years and is "still going"

Mr. Sullivan.

More than some poultrymen money.

Shake, Mr. Hyatt. Your stat in the California Cultivator of ary 28 should make Mr. W. T. Santa Ana "look around a littl should judge from his letter he might be acquainted with son called breeders we have heard of bought a setting of eggs, an old h sack of wheat and expected th to make dollars for them by the they offered "suckers" in th worded advertisements. Now, t cept the matter as W. T. K. pu without answering by someone s birds and eggs at the figures he q many might think that simpl only paid such prices as $1.00 eac eggs and $25.00 and even mor breeding birds. The writer hap to have a few of these same sl tons on his list of pleased custo among them those who have $10.00 and $50.00 for single mens, $15.00 for single settin eggs, and for three and four ye succession.

As an example, Mr. M M Bak Peoria, Ill., saw the birds exh

S. C. White Leghorns

· The Kind
That Pays

For my breeding birds I each year select a number of my handsomest, earliest developing pullets and trap nest them during their entire first laying year. The next season from these I select only those having satisfactory laying records. In my breeding pens are only hens of proven worth in their second and third season, and no bird that has ever shown a trace of disease. Each pen mated eleven hens to one handsome cock. I believe there is not in California a handsomer or better lot of birds and few as good. Can furnish eggs for hatching from these birds at $1.50 for 15, $7.50 per 100 or $60 per 1000. Let me book your order now.
Correspondence solicited.

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Imported
Aylesbury Ducks

Winners at Crystal Palace and leading shows in England.
Also at the State Fair, San Jose and Oakland, 1906.
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Stock for sale and Eggs in season.

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Breeding stock and eggs for sale. Gobblers $5.00 to $10.00 each. Hens $3.00 to $5.00 each. Eggs 10 to 25c each.

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All kinds. Hatching daily. We ship everywhere. Send for price list of chicks and eggs.

Pioneer Hatchery
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Barred Rocks a Specialty

I can supply Eggs from strong, vigorous birds barred to the skin and correctly mated for $1.50 and $2.50 per 15. Incubator lots a matter of correspondence.

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Eggs $1.50 per 15, $7.00 per 100. I. R. Duck Eggs, $1.00 per 13, $5.00 per 100.

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Mr. and Mrs. W. S. Sullivan
Agnew, Santa Clara Co., Cal.
Yards Stone Throw from Depot.

Fancy Barred Rocks
Eggs From Prize Winners
First Pen $2.00 per Sitting
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Baldwin's White Leghorns
First prizes San Jose '06, and State Fair '07
Three 1sts and special, San Jose, '07.
Three 1sts, three 2nds and $50 Cup best display Petaluma '07.
Send for free '08 Catalogue and price list.
Frank E. Baldwin
46 Washington Ave. - San Jose, Cal.

When writing advertisers, mention Cultivator.

by the writer at the World's Fair, St. Louis, 1904, and this gentleman is such a simpleton that he is the head of one of the largest agricultural machinery manufactories in the United States. Mr. Baker ordered eggs for hatching from our best matings—that year sold at $10.00, the next year again at $1.00 per egg—the results very satisfactory, and in November last I shipped him a cock bird that won first at San Jose show, second at Los Angeles, January, '07, second at State Fair, Sacramento, '07. This same bird won first at Peoria last week. With his first cockerel hatched from an egg that was packed and shipped when warm from the nest, laid by "Mayflower," the fourth pullet at World's Fair, '04, and marked on the shell what it was. Mr. Baker wrote this was the first egg to hatch, and again orders eggs of our very best for March, '08, at $1.00 each.

There is a reason for getting these prices—birds, line, breed—that have the quality and show it in the offspring. They have a value as breeders just as much as do horses, cattle and other live stock.

Simpletons don't part with money for chickens such as these; they know too much. Perhaps Mr. W. T. K. does not know that the highest prices are paid by those in the same line and not by the foolish or those unacquainted with the real worth of the exceptional specimens. Let Mr. W. T. K. look up the Reliable Poultry Journal of a year and a half ago and he will find he is away short in figures. Seventeen R. C. B. Minorcas sold for $3,400.00, and $1000 refused for another from the same yards.

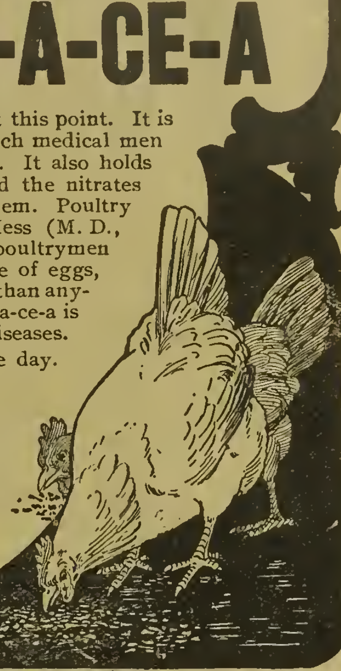
Simpletons sometimes write to "the papers." I expect to buy one-half of Los Angeles with my check for this letter to the editor. I believe I have been paid as much as $2.00 once for a short article in an eastern farm paper and I was almost sick when I received the check and had to look at it a long time before I realized I was of so much importance as to be paid for a little chicken talk. I have, however, written thousands of words for different publications for the pure love of it, and the good I thought it might perhaps do some one who was a beginner.

There is money in poultry; as a market proposition we all well know it pays; the rearing of exhibition stock is another branch that pays, and pays well if you can "deliver the goods," but to be charitable, probably Mr. W. T. K. is not familiar with "the game." Study up; get some good stock, Mr. Man. "Play fair" and you will find you deal with the best people on earth—lovers of good fowls.

W. S. SULLIVAN, "at it twenty years and still goin'."

FIVE ACRES OF WHITE LEGHORNS.

One of the most complete poultry ranches in Southern California is to be found at 126 South Adams street, Riverside. This plant is owned by Mr. S. E. Gregg, and is devoted entirely to White Leghorns. Mr. Gregg is a thorough, consistent breeder, and by hard work and careful attention, has built up one of the best flocks of White Leghorns in the State. When we visited Mr. Gregg's ranch we found one of the nicest, cleanest flocks of Leghorns that we have seen for a long time. This flock is not bred altogether for fancy points, but for utility as well. As only birds that have made a creditable showing in the production of eggs are considered as worthy to go into a breeding pen. Those in need of good, strong, vigorous stock should correspond with Mr. Gregg.



Feed Rather Than Breed

There is more in the proper management of a hen than in the hen herself—feed and care count for more than "blood." Some breeds lay better than others, but a man who don't "know how" will spoil the *best* hen; while a man of experience will get eggs from the hen who hasn't a disposition to lay. The secret lies in giving the hen *perfect digestion*, because if she does not extract from her food the elements of the egg, she is sure to be non-productive.

DR. HESS
Poultry PAN-A-CE-A

fully meets the needs of the poultryman at this point. It is a tonic containing the bitter principles which medical men tell us will assist and strengthen digestion. It also holds salts of iron, which makes good blood and the nitrates which expel poisonous matter from the system. Poultry Pan-a-ce-a is the prescription of Dr. Hess (M. D., D. V. S.) and is endorsed by leading poultrymen everywhere. It makes hens lay abundance of eggs, forces chicks to early maturity and is better than anything else to help fatten market birds. Pan-a-ce-a is also a germicide and wards off poultry diseases.

Costs but a penny to feed 30 fowls one day.
Sold on a written guarantee.

1½ lbs. 35c; 5 lbs. 85c;
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Send two cents for Dr. Hess' 48-page Poultry Book, free.

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Instant Louse Killer Kills Lice.
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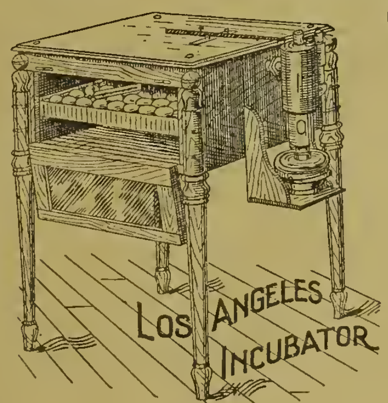

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prepared from clean, sound grains, seeds, beef scraps and charcoal in proportions to make a well balanced ration and produce strong, healthy chicks and keep them continually growing. For sale by all dealers and grocers. Take no other.

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We trap nest our hens. Why set from poor layers? Bird laying qualities are inherited the same as any other. This year we have discarded all old matings and have gone to the next generation. Cocks have 9 generations of 200 egg mothers. Hens all from 200 egg mothers and from cock with 6 generations of 200 egg mothers, and are layingfine. We have divided into pens according to the way they are showing up in six months laying. $2.50 for 13 eggs from first pen. $1.00 from 2nd. until they have time to make longer records. (Except from our one best, not for sale. We claim the world's Barred Rock, 6 months laying record for this one.) We have something to crow about. No Sunday sales or visitors. Orders postmarked after Feb. 12th will be charged $2.50.
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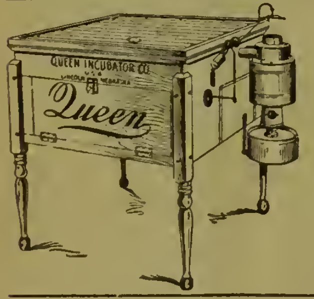

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110 capacity for $8.25 f. o. b. Los Angeles. These are all new machines, never been out of the crates. And guarantee to do all we claim or your money refunded within 60 days. Send for our New "Queen" Book No. 6. It is free. Special prices for February on 1908 model. Or call at 440 San Fernando Bldg. Corner 4th and Main and inspect the "Queen" of all Incupators. Prices are the lowest.

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Trap-Nested White Wyandottes

That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribons, all at Los Angeles County Poultry Ass'n Show, Dec. 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah.

Mission View Poultry Ranch Mrs. C. D. Hubbard **San Fernando, Cal.**

Mammoth Bronze Turkeys One and Two Year Old Hens and Early Hatched, Well Matured Toms **For Breeding**

Well Bred, Carefully Selected Cockerels Good Style, Good Size, Pure White Birds **S. C. White Leghorns** Eggs for Hatching, Any Quantity Write your wants.

No trouble to answer inquirers. Satisfaction guaranteed.

Stuhr-Williamson Poultry Company

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Black Langshans Well, we won again at Los Angeles. Two firsts, one second, one third on five birds shown. Best stock ever in show room in California. Eggs, $2.00 to $5.00 per 13, $10.00 to $20.00 per 100.

White Rocks Large and vigorous. Improve your stock with a setting or get a fine flock with an incubator lot. Eggs, $1.50 to $2.50 per 13, $8.00 to $12.00 per 100.

S. C. White Leghorns Order eggs now, we have plenty of them. Have had all winter, great big white ones. Eggs, $1.00 to $2.00 per 13, $6.00 to $10.00 per 100.

Phone East 915 **Foster's Poultry Yards, 128 W. Avenue 41, Los Angeles**

Beef, Blood and Bone Will Make Your Hens Lay

This is not a medicine but a high grade nitrogenous food. Write for free booklet "How to make Hens Lay." Our Poultry Foods are sold by all local dealers and manufactured solely by

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Write for our free booklet, "Farmer's Friend." Valuable to all farmers and ranchers.

Barred and White Rocks White Wyandottes and Beautiful Little Golden Sebright Bantams

If you want birds of the highest quality, bred for standard and utility, write your wants. I guarantee satisfaction.

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S. C. White Leghorns

Barred P. Rocks

Won on White Leghorns at the Poultry Breeders' Association show, Jan. 6-12, 1908. 4 firsts, 2 seconds; 4 thirds; 1 fourth; 1 fifth. Also Association cup for highest scoring on White Leghorn cockerel. Eggs for hatching, $1, $1.50 per 13; $5 per 100. Prize winning pens, $2 per 13. The hens in our breeding pens are all selected two-year-old hens, and bred to lay and win.

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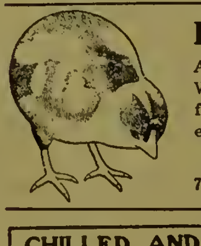

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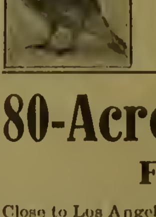

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It is the early chick that pays. It gets a good growth before the vermin of summer come to sap it of vitality. You don't see the early chick moping around covered with lice and with no ambition to get rid of them. The early chick is fit for market at a time when prices are good. If kept for laying she begins business in the fall when eggs are worth good money.

After you have the incubator paid for it is of no expense worth mentioning to keep running. It will last a lifetime without expensive repairs, if well cared for. It eats no grain while doing nothing. How about the hen? She is an expense at all times. The only way to keep her from running you in debt is to make her lay eggs nearly all the year instead of sitting or mothering chicks. Get posted on incubators in time to by early. Write for catadogues now.

THE LAY OF A HEN,

There was a hen that had a lay,
  Which lay she sang, and sang each
    day;
But not an egg this hen did lay.
Although this lay she sang each day!
  And now this hen and lay are laid
Where all such hens and lays should
    lay;
  And in their stead a biddy staid,
Does sing her lay, and lays each day
    an egg.—Western Garden.

The newly elected officers of the Oregon State Poultry Association who will serve for the coming year are: President, J. C. Murray, of Portland; vice-president, D. N. Lash; secretary J. E. Windle, of Lents; treasurer, W. P. Snook, of Portland.

PHEASANT FARMING.

The Cultivator is in receipt of a pamphlet on pheasant farming written by Gene M. Simpson of Corvallis, Oregon. It contains general information about pheasants with instructions ho to raise them.

The breeding of pheasants must be a pleasant occupation, and, no doubt, the little booklet will create interest in it. Mr. Simpson will be glad to get in touch with any interested in phea ants.

BUFF LEGHORN SPECIALISTS.

Lindgren Bros., Kingsbury, Cal are perhaps the best known and mo extensive Buff Leghorn breeders California They have been breedi this variety for 16 years and have exhibited from New York to San Fran cisco, always winning in the stronge competition. They know the true Leghorn type and have the soft, eve shade of color that is so hard to breed. Anyone interested in this breed shoul write them for particulars; they hav the goods.

Oil having been discovered in paying quantities adjoining the Wm Niles ranch, he has concluded to reduce his stock at the lowest possibl prices. See his card in our stock advertising columns.

Hollingworth, Santa Cruz, wh starts an advertisement in this issue is an old breeder, having bred and exhibited poultry in England. Mr Hollingworth is not only an exhibitor but a winner at the late Oaklan show; he won eight firsts in stron competition. Those in need of stock or eggs will receive fair treatment from Mr. Hollingworth

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We want to talk with—or write to—the woman who has a little money to invest; want to urge upon her the importance of investing carefully and wisely; want to demonstrate our ability to give her sound advice and practical assistance.

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Washington Navel Orange Trees.
Valencia Late Orange Trees.
Eureka Lemon Trees.
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These trees are fine as ever were grown. Free from scale, from carefully selected buds and of standard size. Ready for delivery any time that you may wish to set your orchard. Market prices.

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Five Thousand Lemon Trees
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he finest lot of 2 year old *Placentia Perfection Valnut Trees* ever offered. *Berry Bushes,* ll kinds.

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Both sweet and sour, the very best. Orders booked now for delivery Spring of 1908.

outhland Nurseries R. F. D. No. 1 PASADENA, CAL.
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DISON PHONOGRAPHS, VICTORS, ZONOPHONES
ecords and Supplies, delivered at your nearest ailroad station upon receipt of full retail price. Vrite for particulars and ask for catalogue. Peter acigalupi & Sons, 1113-15 Fillmore St. San Francisco

ARE ROADSIDE TREES A DRAIN ON ORCHARDS.

Continued from Page 162.

of the pepper, eucalyptus and most of the shade trees used on our streets run near the surface, and a trench along the property line 25 or 30 inches deep severs most of the damaging roots, without materially injuring the tree. This trenching, done when the ground is soft, is inexpensive, and is much used here. The efficiency of this root cutting I recently found markedly demonstrated at Rialto, where many of the orchards are protected from heavy winds, sometimes experienced there, by thickly set, large eucalyptus and cypress wind-breaks. A heavy, steel cutting blade four or five feet long, eight inches wide, one inch thick, is attached to the front running gear of a wagon. This is drawn by ten horses and cuts all roots. This machine is owned, and if I remember rightly, devised and part of it patented by a livery stable man, who does the work for the orchardists, charging ten dollars for cutting across two sides of a ten-acre orchard. Other lighter implements drawn by four or six horses are also used there, owned by the farmers. These, too, have been run several times in a place. But they certainly have practically solved the problem of street tree root damage to orchards. I found the outside rows of their splendid orange orchards, under these great windbreaks, apparently as vigorous and well fruited as those farther in.

Here in Riverside, as fast as practicable, we are relieving the adjoining orange orchards and alfalfa fields by thinning out the too thickly planted street trees. Where present varieties are undesirable, we interplant to what will make a more permanent tree with view of removing the old trees after the new plantings are large enough to make a showing.

Plant for the Future.

In all this street tree management we must remember it should be done with a view of their serving several generations to follow us, and not alone for our present satisfaction.

Stephen Girard once said: "If I knew I would die tomorrow, nevertheless I would plant a tree today."

HE COULD COUNT.

A very little boy was in the room where a young lady was practicing on the piano. She was counting aloud, "One, two, three, four." The little fellow, quite surprised, after a while went to her and said earnestly, "Ee next is five!"—The Youth's Companion.

Gunner—"So the celebrated poet married Miss Penner, the short story writer?"

Guyer—"Yes, and some of their wedding presents were cruel insinuations."

Gnnner—"What did they receive?"

Guyer—"Sixteen waste baskets embellished with ribbons."—Chicago Daily News.

Pa Twaddles—"Tommy, I am not at all pleased with the report your mother gives me of your conduct today."

Tommy Twaddles—"I knowed you wouldn't be, an' I told her so. But she went right ahead and made the report. Jest like a woman, ain't it."—Cleveland Leader.

Mr. Meane—"I have nothing but praise for the new minister."

Mr. Goods—"So I noticed when the plate came around."—Philadelphia Inquirer.

CITRUS CULTURE IN CALIFORNIA.

Continued from Page 155.

We found by practice that if the trees are taken from the nursery balled and stacked under a partial shade as is afforded by a lath house or a tree with dense foliage for five or six days and kept moist enough to prevent wilting, they will transplant in excellent shape. If the trees are slightly wilted when placed in the holes and irrigated immediately they will take up the water faster than if they are put in soaking wet. Care should be taken not to allow the fibrous roots to become dry, for then the trees will be badly injured, if not killed.

Mr. Reed's directions after planting are as follows: A small amount of fertilizer is applied soon after planting for the young roots to use when they first start out of the balls. A pure bat guano with a big per centage of nitrogen, about three-fourths of a pound to the tree, has been found to give the best rsults, but any commercial fertilizer rich in nitrogen or animal fertilizer, if placed properly and kept moist, answers well. It is applied in trenches each side of the ball, at right angles with the irrigation furrows and reaching to them. They may be made by a deep furrow and deepened with a shovel to about one foot. The material is carefully distributed and slightly mixed with earth at the bottom of the furrows, the water from the irrigation furrows keeping this always moist, it is available as soon as reached by the rootlets. This also tends to deep rooting. Thorough irrigation should follow planting every twelve or fifteen days through the summer. The whole space between the rows should be deeply and thoroughly wet—not merely a narrow strip on each side of the rows. I have traced roots that have grown during the first summer over six feet from the trees, and these should be well supplied with moisture at all times.

The advantage claimed by Mr. Reed is, that the tops of the trees are retained and they made use of immediately. The large leaf surface is brought into use at once, which means that instead of the reserve force of the tree being drawn upon to start a new set of leaves and branches, the leaves retained enter at once into elaborating the sap and building up the tree.

Orange trees planted after the Reed system have tops that are from twice to four times as large as when they start their new growth, as are those of trees planted the usual way after they are six months old. Trees planted after this system have produced ten boxes per acre the second year, and three hundred boxes in the third year.

Trees planted in midsummer in the above-described manner, will stand the cold better than an early planted tree that has been severely cut back before transplanting.

Mr. Mills will continue this article in future Cultivator.

The officers of the Washington State Horticultural Society are as follows: President, H. M. Gilbert, North Yakima; first vice-president, H. W. Crowell, Spokane; second vice-president, H. Horns, Wenatchee; treasurer, William Ritz, Walla Walla; secretary, Levi G. Monroe, Spokane.

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REMOVES THE SORENESS--STRENGTHENS MUSCLES

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Price $1.50 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet R.
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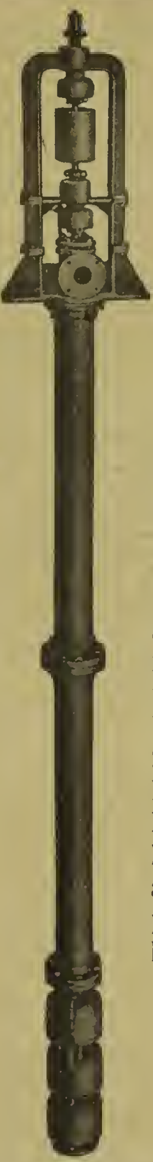
Guaranteed to Deliver from 100 to 2000 Gallons per minute (depending on the diameter of the bored well) to a depth of from 50 to 300 feet below the surface

A Deep Well Pump that has no VALVES or PLUNGERS to wear out and are fast, taking the place of VERTICAL STEAM PUMPS, Deep Well Plungers and Propeller Pumps



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$1.50 Per Acre Per Month

We are preparing to plant to alfalfa 2000 acres of the famous Glenn ranch, 4 to 5 miles from good town and on the main channel of our Great Central Canal in the Sacramento Valley.

We prepare the soil, plant, irrigate, harvest and market the alfalfa for you, applying the proceeds on account of your contract of purchase.

We will sell you 10, 20 or 40 acres of this land on these unusual terms, including water right.

Write or call for circular containing full particulars.

C. M. Wooster Co.
225 W. Second St., Los Angeles, Cal.

NEW 1908
DE LAVAL
CREAM
SEPARATORS

1908 marks another great move forward in the development of the Cream Separator—the introduction of a complete new line of DE LAVAL Farm and Dairy Sizes of machines, ranging in separating capacity from 135 lbs. to 1350 lbs. of milk per hour.

As nearly perfect as the DE LAVAL machines have been before, they are now still further improved in practically every detail of construction and efficiency, and every feature reflects the past two years of experiment and test by the De Laval engineers and experts throughout the world.

The principal changes are in greater simplicity of construction, ease of cleaning and replacement of parts; less cost of repairs when necessary; easier hand operation; more complete separation under hard conditions; greater capacity, and a material reduction of prices in proportion to capacity.

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A new 1908 DE LAVAL catalogue and any desired particulars are to be had for the asking.

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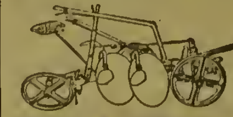

All Sizes for Orchard, Field or Engine
24 inch and 28 inch Discs
Agents Wanted
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Geo. C. Roeding, Fresno, Cal, breeder of
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18 head of Thoroughbred Poland Chinas of both sexes, some of them weigh 150 pounds. W. R. McCaslin, R.F.D., Oak Park, Sac. Co., Cal. Roosevelt Ave

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My Berkshires took every blue ribbon and Gold and Silver Medal in the female classes. Choice pigs at low prices. G. A. Murphy, Perkins, Cal.

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The Whiting Jersey Stock Farm Company
Is making the very best strains of blood fresh from the island of Jersey a specialty.
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High Grade Stock of Best Strains.
Young Stock For Sale
M. Bassett Hanford, Cal.

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Live Stock and Dairy

SANITARY MILK.

THE stable, the cow, the milker and everything about milk must be of sanitary cleanliness, if a perfect milk is produced. The cow we own, the stable we own, to keep these clean is only a matter of expenditure and supervision. The milker we do not own; he is the most independent man we employ. Today he is with us, tomorrow he flits, often like the bats going at night. How can we keep him clean? The difficulty is often to procure any milker, yet morning and evening, and perhaps at noon time, the cows must be milked. The dairyman is handicapped by the fact of time; cows are on time always with their full udders. The dairyman has often to close his eyes to the fact that all is not perfect at the dairy barn. It is necessary to be diplomatic to induce the milker to put on clean clothes at milking time. Then to wash his hands and clean his finger nails. Why? If he is not naturally so disposed to do these things, be sure you have another man waiting before insisting. Yet we are all alike, for was any one ever willing to admit they are not clean?

Inspectors.

The dairyman could be helped instead of hindered by the authorities. The milkers have got the cinch on him. I have known of a dairyman struggling to make the milker clean up and keep clean, finally discharging the slovenly fellow. Before the new milker got to know the cows, the old milker reported the conditions, and the dairyman paid a fine for the dirt left behind by the discharged employee. Now, under present conditions, a spiteful milker has everything in his favor. The fine and reprimand should fall on the milkers personally, then they could be made to follow the law. The larger dairymen are putting in the milking machines, while the smaller dairyman feels that he must close out his business. The present prices of milk do not warrant the extra expense of sanitary handling.

Clean Milkers.

A force of clean milkers are humored, even petted on the ranch. They get coffee and pie at two in the morning. They are provided with a separate bunk house that their morning naps will not be disturbed. My foreman used to say that the milkers lay awake at night to plan something more to exact as price of continuous services. The milkers work less hours than other help, having two periods of three and half to four hours work during the twenty-four hours. The English and American workers usually leave the milking to the Swiss and Dagoes. When one is lucky enough to have Dagoes, Hollanders or Scotch milkers he is, indeed, fortunate. The fining of the milker instead of the dairyman is only following the custom of the Humane Society. They do not arrest the owner of the horse when the teamster abuses the animal. The dairyman has the inspector, the cow, the milker and the bacteria all to control; it is no wonder he wishes more pay for milk and cream. The thorns are many in his bed of roses, and grevious ones at that.

Stables.

This building must be one that can be kept clean. Board floors soon become foul with the liquid secretions At one time the board floor was th cheapest that could be put down now they are a luxury. Cement i the cheapest and best of floors for th cow stables. The gutter and aisle should be of cement; the stalls wher the cows stand are made of ordinar earth well tamped and treated t crude oil. The droppings the cow make as they come into the stable should all be removed before milkin begins. The cement floors are wel covered with gypsum, and the gutter have also a heavy coating on them A box of gypsum at one side of th stable is used to promptly cover al droppings in the gutters. Gypsum i needed on California soils, and it als acts as a conserver of the nitroger in the manure. While it may cos something, the use of it will greatl help the fertility of the soil after i has served its purpose as a deodorizer in the stables. Dry, clean roa earth is often used for the same purpose, and is said to be better tha nothing. I should prefer the eart from the plow furrows of the orchar or vineyard.

Routine.

The cows after milking are leased from the stable and the flo cleaned at first with a shovel an then swept. The gypsum is spre over them until they are white. Th stalls and surroundings of the cow should be whitewashed every mont A small tablet of corrosive sublimate is dissolved in the whitewash as it is good for disenfecting. I spraying it on the stalls, it is mad half strength or dissolved in doubl the amount of water. We believ there is no danger attending it use in this minute dilution. Th coal tar derivatives are the best o disenfectants, but are not advisabl to use, as they have strong odors tha the milk is liable to acquire. Th cows are carefully carded an brushed every day. This is bes done before turning out in the morning. The milk should be removed before any cleaning of cows or buildings is attempted. The hair from th thighs and stomach of the cow should be clipped, also any long hai growing on the udder. There wa once an old woman who took a candle and tried to singe the hair fro the cow's udder, but the cow we one way and the old woman th other in a forceful manner.

Bacteria.

The exposure for a few seconds a prepared gelatine plate in the co stable during cleaning time and o after the stable is clean and dust s tled, shows a great difference in th number of bacteria present. Th stirring of the hay, particularly alfalfa hay, sends thousands of bacte into the air of the stable. The cow udder should be washed if at soiled before milking. If no soiled, wipe carefully all dust fro them with a clean, soft cloth. Afte the cows are carded, turn them o to pasture. Then clean the manger of all waste foods and fill the rack for evening. Then clean out the manure and spread the gypsum; th will allow plenty of time for all du to settle before the evening milkin time. If any cow is dirty at the nex milking time clean her up outsid and avoid stirring up the dust. Afte the cows are in the barn, wipe o the udder flanks and stomach with dampened cloth.

Dry Milking.

Among other things to be absolutely insisted on, is dry milking; wet milking may be the calf's way, but it is too filthy a practice to dwell upon. I do not like, for this reason, to have the udder washed at milking time; the temptation is to leave them dripping wet. Sometimes there are heifers with teats so short that the milker's hands will be wet. The teats usually lengthen after a while and this milk can be placed in the calves' pails. Stagnant water in the pasture fields or water holes are often a source of the bacteria that produces slimy milk. The danger to the health of the cow makes it imperative that all these places be fenced.

Bacteria.

Bacteria multiply rapidly in fresh manure; covering the droppings with gypsum retards this action. The tuberculosis bacteria is said to come into the milk usually by the way of the manure, and more rarely directly from the udder of the diseased cows. If the stables are perfectly clean, manure has little chance to be found in the milk. The stable should be as clean as a parlor, no litter or waste products tolerated and no smells. In the barnyard droppings are taken up daily with a broad shovel, then when the rains come there will be clean earth and water and mud, not a pasty mass of manure droppings.—M. E. Sherman.

RED POLLED CATTLE.

Ask the average man to name the breeds of beef cattle and he would name Shorthorns and Herefords. Ask him to name the breeds of dairy cattle and he would name Jerseys and Holsteins. There are, however, many breeds of both beef and dairy cattle, and some that are good both for beef and for the dairy. The latter may properly be called dual purpose cattle, says a writer in Farm Ranch.

The Red Polled cattle are a dual purpose breed and a very good one. They are not as large or "beefy" as the strictly beef breeds, nor as delicate looking as most dairy cattle. They are a medium type. The Red Polled cattle must not be confused with the polled Durhams, for while there is a superficial resemblance there are marked differences. The Polled Durhams are merely Shorthorn catle without horns. They might be called Polled Shorthorns or "Hornless Shorthorns," for they are true specimens of the Shorthorn breed, tracing their pedigree along the lines of the Shorthorn race.

The Red Polled cattle, on the other hand, have a different pedigree—an entirely different history. The breed was formed in the early part of the last century by crossing the red horned cattle of Norfolk, England, with the polled cattle of Suffolk, England. The former were good beef animals and the latter, good dairy animals, and the fused product, the Red Polls, naturally partake of the qualities of both of the breeds from which they sprang. They have been recognized as a distinct breed considerably more than 50 years and are well known in England, the United States and the Argentine Republic.

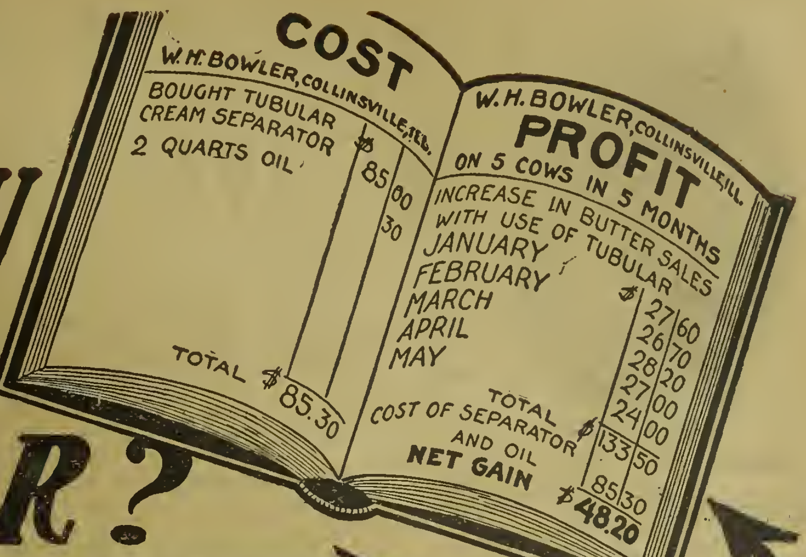
The average weight of mature Red Polled bulls is from 1800 to 2200 pounds, though a weght of 2600 pounds has been reached by a very fine specimen. The cows weigh from 1100 to 1600 pounds. The head of a Red Polled animal is distinctly less "beefy" than the head of an animal of any of the beef breeds. They are also somewhat more nervous in temperament than Shorthorns and other beef animals, yet are very docile and easily handled. As dairy cattle they have a fine record. Lord Rothschild's herd of 34 cows averaged 6520 pounds of milk in the year 1900 and 43 cows averaged 6895 pounds in the year 1901. At the Pan-American dairy test in 1901 the Red Polled cows took fifth rank among ten breeds.

TAR DRIVES GAD-FLY FROM SHEEP.

This is the cause of the trouble, later known as "grub in the head." These flies are about half an inch long and deposit their eggs in July and August on the sheep's nostrils. As soon as they hatch the larva crawls up the nostrils and remains in the sinuses of the head, living on the secretions until the next spring, when it is ready to crawl out, always causing the sheep great annoyance, both in entering and leaving, and sometimes proving fatal in the latter instance.

Usually, however, if the sheep are well fed there will be no serious trouble. These grubs never go to the brain, as many believe. If the sheep can have access to a dark place in in which to lie at the season when the flies lay their eggs or some tar is smeared on the nose at this time once or twice a week there will be litle annoyance from this pest. There is no remedy worth while after the grub has entered the head; they will come forth in due season.—Farm Progress.

WILL IT PAY YOU TO BUY A TUBULAR?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2 QUARTS OIL 30
TOTAL $85.30
W. H. BOWLER, COLLINSVILLE, ILL.
PROFIT
ON 5 COWS IN 5 MONTHS
INCREASE IN BUTTER SALES WITH USE OF TUBULAR
JANUARY $27 60
FEBRUARY 26 70
MARCH 28 20
APRIL 27 00
MAY 24 00
TOTAL $133 50
COST OF SEPARATOR AND OIL 85 30
NET GAIN $48.20

THE best way to determine this question is to get out your pencil and do a little figuring.

You don't need to be an expert mathematician to figure this problem. In fact, to make it easier, we'll figure it for you and in such a way that you can easily see it in your own case.

If you are milking five average cows, not using a Tubular, you lose $5 to $6 a month—leaving butter fat in the milk, which a Tubular would get out. Then the better your cows the larger your loss—up to three or four times as much.

In a few months you would have made enough extra money out of this extra cream which you are now wasting—losing—to pay for a Tubular. Here's actual proof. Read what Mr. W. H. Bowler gained on his 5 cows by using a Tubular.

COLLINSVILLE, Ill.

"From five good Jersey cows while using the water separator we made from twenty-three to twenty-four pounds of butter a week; with one of your Separators from the same cows we made from forty-three to forty-seven pounds a week. I think it would take about $1000 to buy my Tubular if I couldn't get another."

W. H. BOWLER.

MOUNT AIRY, Md.

I am milking five cows. The increase of revenue, over the water can I was using, will pay the cost of the Tubular inside of one year. I think the Sharples Tubular far superior to any other separator.

EMORY PURDUM.

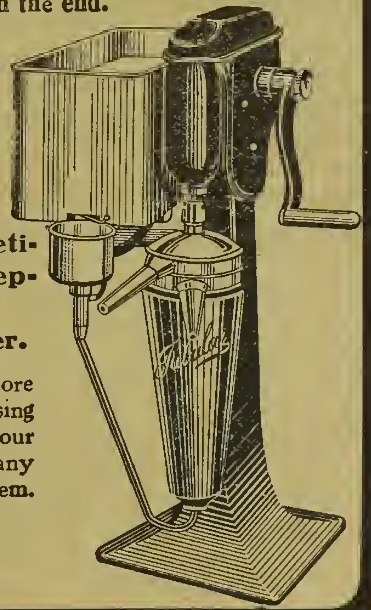
It is not a question any longer, whether it will pay you to buy a Separator—the fact is, you can't afford to do without one. Now the all important question is, which separator to buy?

Too many people have made the mistake of buying a low-priced separator only to find that instead of saving money on their purchase—they have wasted it entirely. Don't do this. Get the best at first—a Tubular—it's cheapest in the end.

Here are the reasons: It skims closest. Has fewest parts. Easiest to clean. Low supply can saves your back. Turns easiest—is frictionless ball bearings. Wins in every competitive test. Made in largest Cream Separator Factory in the world. More sold each year than any other.

Send for our new catalog No. 260 it's full of more good reasons and proofs from those who are using them. It's free—we'll also send a copy of our book "Business Dairying" which will help any one keeping cows to get more profit from them. It's worth a dollar of any farmer's money.

THE SHARPLES SEPARATOR CO.,
Chicago, Ill. West Chester, Pa. Toronto, Can.



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WITH THE

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Large, Rich and ***Prolific***

Costs nothing to investigate

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Oregon Nursery Company
Salem, Oregon
Salesmen Wanted

Beaumont

For Sale—25 acres of the Best Grape Land; fine location, overlooking Beaumont and just ¾ mile from town. A splendid well of water on the highest point; no irrigation needed. This land is much superior than the most of the land offered, and will be sold at a reasonable price. For Price, etc., address

Robert Adams, Beaumont, Cal.

Trees French Prunes and Apricots, Muirs and Tuscan Clings, and many other varieties of Peach Trees; all fine budded stock. Large stock of all the leading varieties of Apples, grafted on whole roots and free from all pests. Also a fine stock of Cherries, Pears, Plums, etc. Send for price list.

A. E. SCHEIDECKER **SEBASTOPOL, CAL.**
Prop. Pleasant View Nursery.

Grafted Walnuts

I still have some fine grafted and seedling walnut trees to sell. Postal will get prices, etc.

Chas H. Hamburg, Whittier, Cal.

Sugar Gum and Red Gum Trees

100 for $2.50

By mail or express. Charges prepaid. 6 to 8 inches high. Ready for planting. Safe Delivery guaranteed.

HENRY SHAW
Riverside Nursery
320 River St. Santa Cruz, Cal.

Walnut Trees

Grown from carefully selected seed
Postal for prices.

A. A. Mills, Anaheim, Cal.

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3¼ x 10 Skeins
28&30" Wheels
4 & 5" Tires

Agents Wanted **Write us for Complete Catalog**
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Cash For your Property; Real Estate and Business Chances; Anything Salable. Someone, somewhere, wants it at your price. We have the buyer, or can quickly find him. We are also looking for.................. **Inventions** We can help the Inventor. Write us today. LOS ANGELES INVENTION & INVESTMENT CO., Dept. C., 451-2 Pacific Electric Bldg., Los Angeles, California.

Baby Chicks

All kinds. Hatching daily. We ship everywhere. Send for price list of chicks and eggs.

Pioneer Hatchery
711 So. Main St., Los Angeles

The sheep men in the convention at Helena last week bitterly opposed the announced policies of President Roosevelt for the federal control of the public range. The convention was one of the largest ever held.

The Vegetable Garden

SWEET POTATO CULTURE.

In our issue of January 2, Mr. Lobingier, in answering a query as to sweet potato culture from a Riverside subscriber, gave directions regarding propagation and culture of the sweet potato. This was from Mr. Lobingier's standpoint, and from his experience in Southern California, we doubt not, correct. But since then two communications have been received from subscriber's in the North showing the cultural condition there somewhat different. The first of these communications is from Mr. J. C. James of Atwater. He says that the plan suggested by Mr. Lobingier is not followed in Merced county, but that the method there most successfully used is as follows:

In my 20 years' experience in Merced county I never knew of but one experiment to raise sweet potatoes without a hot bed and the experiment brought the plants about one month too late for profitable planting, therefore we use the hot bed that we may secure profitable plants. This is our method:

The Hot Bed.

Dig a trench, the width is immaterial, for convenience about four feet wide and two feet deep is about right. Put in the bottom some straw (bean straw is fine) or corn stalks, tramp it down until it is about eight inches deep, then put in stable manure to about five inches from the top of the trench. Now put three inches of soil, then lay the potatoes. We lay them close together (for the reason that we get more plants to foot of bed.) Cover them with light rich soil about three inches deep.

Now notice that there is a very shallow depth and consequently care must be taken not to allow it to become dry, for that reason if it does not rain we employ the sprinkling can; do not allow the bed to get dry either below or above but do not turn water on unless it needs it. If your bed is unprotected make a windbreak to shut off the north wind. Get all the sunshine.

In the Field.

After the plants are big enough to set out, and no danger of frost, take from bed, put one hand on the tuber and hold it there and pull off the young plants with the other hand.

The usual method of making ridges, is best because it warms the soil further down and consequently grows longer tubers, and the deep furrows also hold more water which means perhaps less frequent irrigation.

To make ridges they should be one yard apart, so as to acommodate, or fit the planter; then each wheel will be in the center of the furow and keep the shoe on the center of the ridge. The same width is all right for hand planting because it is none too wide for the cultivator. Instead of following with water it is better to send the water ahead of the planting and also the water should be turned in the row just finished so it will leave the ground thoroughly irrigated, otherwise plants may die. Proceed as follows: with the left hand make a hole, dip out of the furow and nearly fill the hole. The planter follows; put the plants in the water or mud, then throw on a handfull of dry soil to prevent baking or crusting.

Now keep your ground in good condition; if you don't know enough for that go back to the bargain counter.

* * *

Another, Mr. George Russel of Murphy writes as follows:—

"I think your answer to the question regarding the growing of sweet potatoes does not cover all the ground. The sweet potato is a tropical plant, therefore the longer the growing season the more potatoes the grower will get. If the potato grower will select a warm spot on the south side of a building, or any place that is protected from the colder rain, and will be where the sun will shine on it all day, it will give best opportunity for the sprouting of the tubers.

The Hot Bed.

Dig about twelve inches below the surface of the ground, fill with good, fresh horse manure, which should be well tramped down. This should be done at once, and even now it is late. Set boards at least a foot high on edge around this hole which has been tramped full of manure, level with the ground, packing dirt around the outside to hold them firm.

After thoroughly wetting this manure put a covering of good sandy loam to a depth of six inches. Make a covering for the bed. It may be of boards, but preferably of muslin, which may be placed over the beds at night and on stormy days. Keep the soil and the manure about as moist as you would for the best condition of your growing plants. In about three weeks it will be warm enough to put in the seed. Lay the seed as advised by Mr. Lobingier in the former article and cover with same kind of soil, to a depth of nearly six inches.

Prepare 100 square feet of such a bed for every acre to be planted about 250 pounds of seed to the acre, as a general rule. Of course, the bed must be kept open during warm and sunny days and always moist. If everything has been properly done up to the last week in April or first of May, you will have a fine bed of plants ready to plant from 8 to 12 inches in length. They must go to the field as soon as possible in order to secure the long season.

Field Culture.

The field ground should be prepared at least a week beforehand, and two weeks is still better. Set on ridges three feet apart and 15 to 18 inches on the ridge. I have always grown them on ridges, yet I question that practice in all sections of the arid country. I am growing Irish potatoes with all success with level culture. I have no experience growing sweet potatoes by irrigation, but there is one thing I am positive about and that is, that moisture must be uniformily maintained with both sweet and Irish potatoes.

In regard to setting sweet potato plants by dropping them along the row prepared for them, take a hard wood stick, shaped at one end so that it will be readily pushed into the ground, and with it press the root into the soft, well prepared loam. This should be quite deeply pressed into the groung to within two or three inches of top.

The early sweet potato, like all other early products, is the one that pays best. If the ground is dry at setting time, irrigation must be given, but in my section I have always done better without the water.

IT'S PENNY WISE

Policy to set out a good tree, costing good money, and then let the sun burn the bark or the rabbits gnaw it, when for $1 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Manufacturing Company, 1380 Willow street, Los Angeles.

RAIN CHART.

The Security Savings Bank is again out with its valuable rain chart of Southern California. This chart is reliable, and is so valuable that thousands are sent for every year.

Any reader who will mention the Cultivator will be mailed a copy of the chart. It's well worth sending for.

By the way, we may be permitted to remark that the bank is also absolutely reliable, and will handle farmers' money as it has that of thousands of business men, successfully and honestly.

THE 20TH CENTURY GRADER AND DITCHER.

We call attention to the advertisement on another page to the new road and ditch maker, the "20th Century." This is eminently a practical machine whose cheapness brings it within range of almost every rancher in the country. Irrigators, township trustees and city councils should investigate this machine and write the Agency for information about it.

Only One "BROMO QUININE"

That is LAXATIVE BROMO QUININE. Look for the signature of E. W. GROVE. Used the World over to Cure a Cold in one day. 25c

PHENOMENAL BERRY PLANTS

Place your order now for good, strong plants. While the berries somewhat resemble the Logan, they are far superior for Jams, etc. Prices very reasonable.
Address,

J. A. Althouse
Whittier, Cal.

Pots Cheap
Cheap Pots
Also Glass

Second-hand 2-inch pots $2.50 per 1000 f. o. b. stored dry. Try sample lot. Washed 8x10 Glass 100 square feet for $5.00 f. o. b.

Chas Howard
Riverside, Cal.

Strawberry Plants
Eight varieties, thoroughbred plants.

Blackberry Plants
Mammoth Blacks, Giant Himalayas, Early Crandall.

Raspberry Plants
Surprise (earliest known) Millers, Cuthbert. ***Dewberry, Loganberry, Phenomenal berry plants.*** Mention Cultivator and send for Catalogue.

G. H. Hopkins, Burbank, Cal.

Burbank's Crimson Winter Rhubarb

Several thousand matured roots for sale at reasonable prices. For information, address

C. A. McDonald
Beaumont, California

Chili Peppers

Dried cull peppers for chickens, shippe to any address on receipt of price $1.5 per cwt.

C. E. Utt, Tustin, Cal.

Pacific Seed Co.
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GROWERS AND IMPORTERS OF
Grass, Vegetable and Flower Seed
All Kinds of Bulbs and Onion Sets
609 J Street **Sacramento, Cal**
Send for Catalogue. Please mention Cultivato

SOUTH BEND ORCHARD CULTIVATOR

Acknowledged the best, 5 feet wide. Spring teeth if wanted. Horizontal lift. No neck weight.

AGENTS WANTED

Steel and malleable iron. Dust proof wheels.
ARNOTT & COMPANY, Los Angeles, Cal.
Write for Catalog. 112-118 S. Los Angeles St.

Burbank Crimson Winte Rhubarb

Plants and Seed for sale in any quantity. Wa ranted the genuine article. Orders filled prompt

A. L. Fratt, Ventura, Cal.

$2.00 per 100

500,000 A1 Everbearing Strawberr Plants, Kellogg strain, Delivered f. b. Irwindale, $2.00 per 1000. Discou for larger orders. Address

L. M. Swallow **Covina, Cal**

Balfour, Guthrie & Co
IMPORTERS OF
THOMAS PHOSPHATE POWDE
AND
NITRATE OF SODA
SAN FRANCISCO **FRESNO** **LOS ANGEL**
WRITE FOR PAMPHLET AND PRICES

When writing advertisers, mention Cultivator

FUMIGATION

Continued from Page 160.

Usually an outfit of tents consists of from 30 to 33 tents, the usual number of trees to a row.

The Crew.

The crew for, say 45-foot tents, is a foreman, a helper and four tent throwers. Experience has taught that they must all be paid good wages or that the result will be that, for one reason or another, your help will be constantly changing.

As each orchard is finished, the cyanide that is left is taken to the barn, weighed and credited to that account. As each row of trees is finished, the tent throwers transfer the tents to the next row and the foreman and helper follow with the chemicals in the cart. They place the fumigating jars under the next row and drop in the chemicals.

Time.

Forty minutes is usually accounted about the right time of exposure to gas for black scale; but for the red or purple scale. it is much better to leave the tents on a full hour or more.

Dosage.

This brings us to the much debated question of dosage, and the following table is as we use it for black scale. For either red or purple scale or pseudo cocus, double the amount of chemicals and use four times the amount of water instead of three:

Height (Feet.)	Diameter. (Feet.)	Cyanide	Sulphuric Acid Fluid Ounces.	Water
16 to 18	16	14 ounces	14 ounces	42 ounces
14 to 16	14	12 ounces	12 ounces	36 ounces
12 to 14	12	10 ounces	10 ounces	30 ounces
10 to 12	10	8 ounces	8 ounces	24 ounces
8 to 10	8	7 ounces	7 ounces	21 ounces
6 to 8	6	5 ounces	5 ounces	15 ounces
4 to 6	5	4 ounces	4 ounces	12 ounces

In fumigating for either red or black scale, if the operator at any time finds conditions not quite right and yet he wishes to continue fumigating, it would be safer to use four times the amount of water instead of three times as given in the table.

There are always differences of opinion as to amount of dosage, and I expect some fumigators will differ with me. But, close observation, both before and after the work, has proven that the heavier dosage pays. Working according to this table we have shown that we can kill at least 99.9 per cent of all scale. In my work as horticultural commissioner I have examined the work of, many fumigators and I have usually found from two per cent to 25 per cent of scale not killed.

A Few Dont's.

It has always seemed a pity to me that when an orchardist has to stand the expense of covering the trees with tents in any event, that poor work should result from the lack of two to four ounces of chemicals to the tree. Used at the time the increased expense would be but little. While the lack means that the work must be done again in a short time, thus nearly doubling the expense.

As a rule, the best time of the year to fumigate is from September first to February first.

I will close with a few don'ts.

Don't try daylight fumigation, for sooner or later you will come to grief.

Don't fumigate when it is wet or rainy.

Don't fumigate after the dawn of morning.

Don't fumigate when the north wind blows.

PRUNING LEMON TREES.

Continued from Page 165.

natural that there should be a more or less marked disparity between this and the practical. The lemon is naturally a large tree and it appears that, though fruiting can be hastened and stimulated by cutting severely, a certain amount of wood growth must be provided for sooner or later. a run-down grove can be made to How much this is the result of the present practice of abundant fertilization, is indicated by the fact that a run down grove can be made to bear almost at once by a severe cutting. After this same grove has been properly cared for for a few years, it is necessary to rebuild this top in order to keep a proper balance, and if this balance be properly maintained, it will not be necessary to cut as incessantly as where the vegetative results of the grower's own fertilizer is too much subjected. Suckers cut from a tree deficient in top are not eliminated as hoped, but half a dozen more are forced out from the base of the one removed and the task thus multiplied, for the tree must at all events be kept "open."

Keep the Eyes Open.

With the large grower there is ample opportunity to study these things, and where he has his own pruners it is natural that they should work out a system in advance of the common practice, and naturally, too, that we should look to them for a solution of such problems. The small grower doing his own pruning and unable to study from outside his own neighborhood, and the grower new to the business is likely to be found clinging longest to the old practices, and to them should the services of experienced pruners, who are observers, be most useful.

It was suggested in these columns several weeks ago that these men possess certain tricks of the trade in regard to time and method of pruning, tricks which they learn by long pursuit of their vocation, and which are more useful than any method that can be defined on paper; really, the vital items in training lemon trees for crop results. These men should be encyclopedias of information and much should be required of them by their employers. Indeed, association with these experts at their work, shows that many of them are perpetually putting into use details of the utmost importance, which may be expressed only by actual demonstration. These details, like most others of this wonderful industry, require careful observation and much experience, not in a single grove but in many groves on many varieties of soils, with a great diversity of treatments and natural conditions, and after following the work of many predecessors.

A REMEDY FOR PEAR BLIGHT.

The pear blight which has destroyed thousands of acres of pear orchards of the State, is now promised its finish in a new remedy which is being placed on the market by the Pear Blight Remedy Company of Vacaville.

The company is composed of good people who claim to have a good thing and a sure cure. Mr. Fred M. Buck, the president, is a very large fruit packer. Dr. F. Lengfield, a prominent physician of San Francisco, is vice-president. Mr. Q. Blum, secretary, is one of the firm of Blum Bros., fruit packers at Vacaville, who have been located at the place many years.

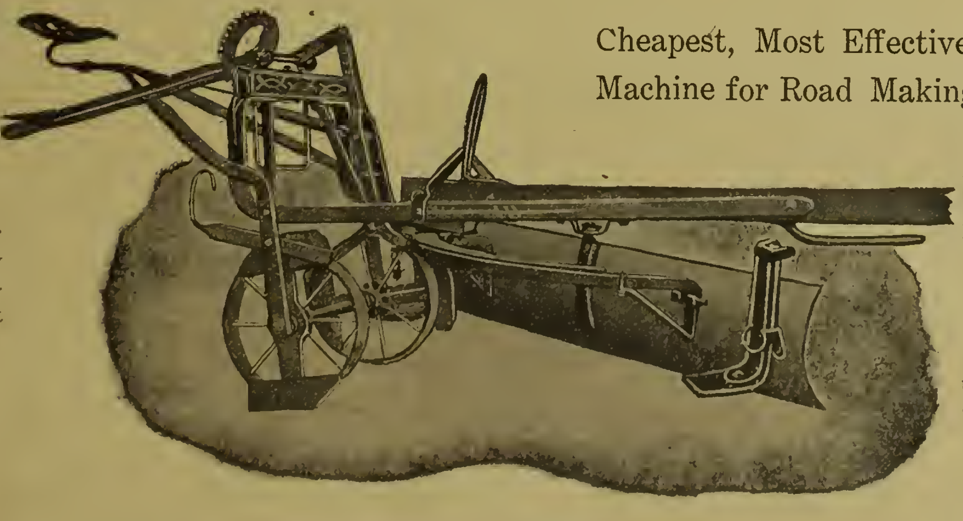
This remedy is applied to the roots of pear trees; it is taken up with the sap, and those who have observed it, say that it does the work successfully. A letter to the firm at Vacaville will bring more complete particulars regarding this remedy.

—The—

20th Century Grader

As a ditcher for ranches and a maker of laterals for alfalfa irrigation, it is a complete sucess. Read the following testimonials from well-known California beet raisers. Also note the popularity of the machines generally, as evidenced by the following letter from the Lyons Implement Co., San Diego.

Nov. 23, 1907.
John Shilling, Jr.,
c o Davis Warehouse, Central & 2nd Ave.,
Los Angeles, Cal.
Dear Sir:
Replying to your favor of the 22nd, would say that the grader was duly received and the report is that it is doing good work.
Yours very truly,
MONTANA LAND CO.,,
A. W. Jones, Agent.



Cheapest, Most Effective and Simplest Machine for Road Making in Existence

Jan. 27, 1908.
Mr. John Schiling, Jr.,
Los Angeles, Cal.
Dear Sir:
Please ship us at once by freight 2 20th-Century Grading Machines. We have just sold the last of our stock and they have all given good satisfaction. Trusting that you may be able to ship at once as we have one good prospect in view.
Very truly,
Lyons Implement Co.,

Requires only one team and man. Does the work in any soil and on any reasonable grade.
For city and town roads and rural districts it is unsurpassed. Saves money and makes durable level surface. Specially adapted for hillside work on ranches or roads. Does the work of plow, digs up sod, makes gutter, curved roadbed which sheds water.
Write for descriptive catalogue prices and information concerning this machine, which is the cheapest and best machine for the kind in the United States to

John Schilling, Jr.

Agency 20th Century Grader and Ditcher, Made by the White City Grader Co., White City, Kansas

Phones: Main 1545; Home A1545 Office: Davies Warehouse, 2nd and Central Ave, Los Angeles, Cal.

Household Department

THE LAND OF "I FORGOT."

Little Trit-trot was a poor little slave
In the land of "I forgot."
He ran and he ran the livelong day,
Did little Trit-i-ty Trot,
Who lived with his mamma just over the way,
In the land "I forgot."

It was "Where is my hat and where is my cap,
And where is my brand-new ball,
And where is my bat and my catching gloves?
I cannot find them at all."
And he hunted and looked upstairs and down,
In kitchen, chamber and hall.

The hat was found in the top of a tree,
By the side of a tattered kite.
The cap was left in old Blackie's nest,
When he gathered the eggs at night.
The hat was wet and the cap was torn,
And both were a sorry sight.

The ball and the bat and the catching glove
Were down in the pasture lot,
And the slate and sponge and strap and books
Had hidden under the cot.
For this is the way things lose themselves
In the land of "I forgot."

—Mary Morrison in Youth's Companion.

THE ARRIVAL OF WINCHESTER.

An ancient phaeton attached to a staid old horse stood in front of a handsome home on a shaded side street. The phaeton was broad and comfortable, the horse fat and sleek. He was a pampered horse and wanted to get home to his comfortable stable. He expressed his uneasiness by softly neighing and by little starts and backings. He knew his mistress was a caller at the house in front of which he was tied, and he wanted to let her know that she was prolonging her stay beyond reasonable limits.

Presently, as if to illustrate his pangs of hunger, he dropped his head, and, craming the phaeton about, began to nibble at the short grass near the curb. The nibbing was not good for the shaven lawn. The nosing horse not only nibbled, but he brought up a tuft or two with the tender roots attached.

A young man who was sauntering down the streeet saw the mischief that was being wrought, and, stepping quickly to the head of the horse, drew him away from his meal. He was shortening the halter when a young fellow came through the gateway. The new-comer looked at the nibbled sod and then at the young man.

"What do you mean," he sharply demanded, "by tying your old brute in front of this house?"

"The young man had turned from the hitching-post and looked over his shoulder at the new-comer.

"Am I to infer that your remark is addressed to me?" he quietly asked.

"Of course it's addressed to you," the new-comer answered in still louder tones. "See the damage your wheezy old plug has done! Hustle him away or I'll kick his ribs in."

The young man pulled the halter tight and turned to the angry youth.

"That's foolish talk," he said. "The damage is only slight." He pressed the sod down lightly with his foot. "The first shower will make the lawn as good as new."

The angry youth grew angrier.

"I ordered you to take that horse away. Will you do it?"

"No," he replied.

"Do you understand that this is my home?"

The young man glanced at the house.

"A very attractive place," he said.

The angry youth stepped forward quickly and kicked vigorously at the old horse. But the kick fell short. The young man caught him as he plunged forward, and with a quick shove from his right arm thrust him half way across the sidewalk.

"You musn't try that," he said. His voice was steady, but he breathed a little more quickly. "Only a cowardly bruite would kick a horse. I'd much rather have you try to kick me."

The youth had been dazed by his sudden impulse. Now he put his head down and leaped at the stranger. He was a youngster of heavy build, and his rush was formidable. But the stranger side-stepped a little, and, lightly countering the blow that was aimed at his breast, struck the youth smartly across the face with the back of his left hand.

"Stop this foolishness," he growled, his face suddenly darkening.

Before the youth could reply a clear voice hailed them from the steps of the house.

"What's going on there?" the voice cried.

The two men looked up. A stout, old woman was coming down the steps, a plainly dressed old woman with beautiful white hair.

The angry youth stared at her for a fleeting moment, and then turned around and walked swiftly down the street. The young man held his ground.

"What are you doing with my horse?" inquired the old woman, as she came through the gate.

"I am untying him, madam," replied the young man.

The old woman stepped into the phaeton and the young man brought the hitching strap to her.

"Is your time of any particular value, young man?"

"No, madam."

"What do you say to taking a little ride with me?"

The young man laughed.

"I'm quite sure I should enjoy both the rest and the company."

And he took the seat beside the woman.

"I'll promise you not to break any speed regulations," she said as she took up the reins. There was a little silence, and then she looked around at her guest. "I overheard part of that boisterous talk back there," she said, "I'm glad you didn't let the youngster kick old Major. What's the matter with your hand?"

He quickly covered the scraped knuckles.

"I'm afraid I slapped the boy harder than I intended," he said.

They were passing along a well-kept road in the suburbs, a road that seemed little traveled, however, when they came in sight of a stranded touring car. It was a handsome car, and a handsome young woman was in the highway beside it. She looked up quickly when she heard the sound of old Major's hoofs.

"Why, it's Aunt Mary," she cried. "Isn't this provoking?"

"What's wrong, Emily?"

"I'm sure I don't know. Every-

SEEDS That Grow
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prices for best quality. Send 35c in stamps for trial order of 12
our 5c packages, your choice, postage paid.

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large stock of the very best goods of all kinds at the lowest price
Come and see us, or mail your orders; you will be treated right.

Pacific Incubators

are as good as can be made. Also PACIFIC COMBINATIO
BROODER. And they are priced right, too. We also make t
"BUSINESS" Incubators and Brooders. Just for business and th
do it everytime. Hot water heating. Very low prices.
Send for free Catalogue.

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707 So. Spring St. Los Angeles, Ca

The
Craftsman Furniture
Made by Gustav Stickley

Only the furniture manufactured in the shops of Gustav Stickley can be called "Craftsman" furniture. Craftsman is the registered name for Gustav Stickley furniture only.. There are many imitations even to the extent of using the name Stickley. Genuine Craftsman furniture is the best furniture of this kind on the market. As a means of identification, to protect customers from imitators, the Gustav Stickley shop mark is placed on all Craftsman furniture.

Every piece of Craftsman furniture is made as well as it is possible to make it, the greatest attention is paid to the harmony of lines, proportion in the designs, to the selection of the woods used and the beauty of coloring and finish.

We are exclusive agents here for the genuine Craftsman furniture and carry a complete line of the famous Gustav Stickley goods; furniture, draperies, etc.

Mail orders given prompt attention.

Pease Bros. Furniture Co.
NOT CONNECTED WITH OTHER STORES
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TELEPHONES EXCHANGE 4567
LOS ANGELES, CALIFORNIA

We can't explain it all to you here, but our New 1
model is certainly a
Perfect Acetylene Generator
Why? There is no part of it that you can't see thro
the new port just opposite the feed, so you know just
much about it as we do.
1908 Model, 4 Sizes, now ready for delivery.
You'll be glad if you get one. Write us.
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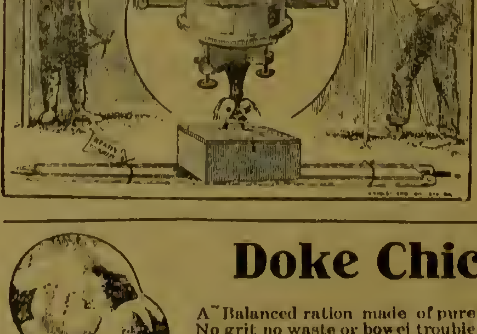

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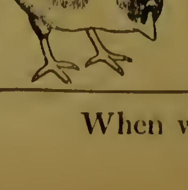

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No grit no waste or bowel trouble in feeding this feed.
Will send freight prepaid to any address for $3.50 per 100 lbs. Arizona p
50c extra.

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Los Angeles, Cal.

When writing advertisers, mention Cultivator.

ng was all right when I started. ran beautifully until just now. It's the more provoking because I was ng down to meet papa. He's com- home tonight, and he'll expect . I'm sure I don't know what I'll " Her gaze swept across the ing man, and then returned to the .

The old lady looked around.

'Are you clever at anything be-es fighting?"

'Try me," he said.

'Perhaps you know something out engines?"

'Yes, ma'am."

"Can't you help this poor girl out her trouble?"

"Madam," said the young man, "I your guest. Do with me as you ll."

"Well, you heard her say she want- to meet a train, didn't you?"

The young man stepped from the aeton and approached the car.

"Will you permit me?" he said litely, as he removed the hood. ien he stared hard at the engine. e girl stepped to the side of the aeton.

"Who is he?" she whispered.

"He hasn't told me."

"Then he's merely one of your ck-ups?"

The old lady suddenly laughed.

"Yes. He won my heart by stop-ng a youngster who tried to fight d Major. I've invited him to din-r."

"Auntie!"

The young man had taken off his t and coat and was busy with a rench and screwdriver.

"This engine is in a shocking con-tion," he said. "It needs a thor-igh cleaning. I'd like to get at it id freshen it up."

He put the hood over the engine id replaced the tools in their box. hen he tested the engine. It caught e spark instantly and ran with a umming smoothness.

"Thank you so much, Mr. ——" id Emily.

'Quite welcome," he answered.

"Thank you, Mr. Quite Welcome." The old lady smiled.

"I wish you'd come over to dinner -night, Emily," she said.

"I'm afraid I can't. Will there be nybody there I know?"

"No. Let me see. I've invited omebody whose name I can't recall. Von't you come?"

"I'll [illegible], Auntie. I suppose papa ill bring home with him that clever ng engineer he's so fond of talk-g about. Papa has made him the onsulting engineer of the road, you now. I suppose he'll be awfully ff and tiresome. If he comes I [illegible] get away."

"Well, if he doesn't come, run ver and bring your father, too. ell him I'll have the coffee just the ay he likes it."

"I will." She stepped into the car. he young man cranked it.

"Thank you again, Mr. Quite Wel-ome," she said.

He lifted his hat and the car sped own the highway. Then he re-umed his seat by the old lady, and he old horse continued his journey.

"This is my house," said the old ady as the ancient horse passed hrough the broad gateway.

It was a fine old colonial house in he midst of beautiful grounds, and he young man looked about him with pleasure.

"I fell like an Interloper," he said.

"A good wash will make you feel ike something more pleasant," the ld lady assured him.

And presently when he came down stairs he showed a marked improvement in appearance.

A distant bell rang softly.

"I have invited you to supper," said the old lady. "No matter what you may be, my hospitality must take its course home."

She led the way into the dining room and pointed out his seat at the table.

And then the girl suddenly reappeared. She was followed by a gray-haired man of fine appearance.

At sight of him the young man suddenly arose.

"Why, Winchester!" cried the gray-haired man, and put out his hand. "This is a pleasant surprise. Why didn't you tell me he was here, Emily?"

"Eh? Haven't you met him? This is the man you've heard me mention on several occasions—our new consulting engineer. Winchester, my daughter, Emily." He looked across at the old lady." She was laughing merrily.—W. R. Rose, in the Cleveland Plain Dealer.

CITRUS RECIPES.

Grapefruit Marmalade.

Take four large graefruit, slice thin and remove seeds; for each pound of fruit add one pint of water. Let stand twenty-four hours; boil twenty minutes till tender; stand again twenty-four hours. For each pound of fruit add one pound of sugar and boil till jellied.

Orange Dessert.

Take large, ripe oranges and cut in shape of a basket with handle; remove all the pulp and seeds, leaving the inside clean from any moisture; then soak a small-sized package of gelatine in a pint of cold water; let this stand until you have the syrup made to pour over the gelatine. To make syrup squeeze the juice of ten oranges and two lemons; remove every seed, as it will be bitter. Rub two oranges with a lump of white sugar so as to make each lump very yellow and oily; in this way obtain the flavor of the peel; take two pounds of white sugar and a pint of water, and boil three minutes; when a little cool, add juice of oranges and lemons and gelatine; set away to cool until it forms a jelly, then fill your orange baskets with this jelly. Just before serving, put a little whipped cream on top of jelly, or white of egg whipped very stiff; then tie a little bow of pale green baby ribbon on handle of orange and place orange basket in a saucer with orange leaves, so the points of the leaves will be at the outer edge of saucer. This makes a beautiful dish for the table.

Lemon Marmalade.

Take two dozen lemons, roll until soft, cut in halves, squeeze the juice into one bowl and the pulp into another. Boil the skins till tender in plenty of water, tightly covered; when quite tender, take them out and cut in shreds. Wet a cloth in cold water; strain the juice through and squeeze the pulp, adding a little cold water to the pulp. Measure the water, chips and juice and to every pint put one pound of white sugar. Boil for twenty minutes, or till it begins to jelly. If boiled too much, the skins will be tough.

Orange Chips.

Cut the oranges in quarters and carefully squeeze all juice through a sieve. Soak the peel in water, and the next day boil it till tender; drain. Slice the peel, put it to the juice, weigh as much sugar and put all together into a broad earthen dish; place over the fire at a moderate distance, often stirring, till the chips candy; then set them in a cool room to dry. They will not be dry under three weeks.

Orange and Lemon Jelly.

One ounce gelatine, one pint water, one-half pound sugar, thin rind of two oranges, juice of eight navel oranges and one lemon, let it gradually come to a boil, and boil one minute; strain through muslin into jelly tumblers. By using one pound of sugar with the rind of two lemons, juice of six lemons and juice of one orange, you will get an excellent lemon jelly.

Orange Sherbert.

Make the cups by cutting a slice from the top of each orange, using the pulp and juice for the sherbert. Cut each cup in points; set away on ice. At serving time place the cups on pretty plates; garnish with holly or fern, fill with orange sherbert, placing a star of whipped cream on top of each orange. To make the sherbert, take one quart of orange quice, two cups strained pulp; sweeten to taste; put in freezer, when nearly frozen, add the white of one egg whipped light, with two tablespoons sherbert until ready to serve.

Orange and Pomelo (or Grape Fruit) Sherbert.

Take one quart of pomelo or grapefruit juice, sweetened to taste; add two cups of orange juice to one of sugar, stirring until the latter is dissolved; pour this on the grapefruit juice and then turn into a freezer; when nearly frozen, remove the dasher, and put in the white of an egg, whipped as light as possible, with two tablespoons powdered sugar, beaten in with a large spoon; after beating in this manner the sherbert is to be packed and put aside to ripen.—Los Angeles Times.

Orange Pie.

Grated rind and juice of two oranges, four eggs, four tablespoons sugar, and one of butter; cream the butter and sugar, add the beaten eggs, then the rind and juice of the oranges, and, lastly, the whites beaten to a froth, and mixed in lightly. Bake with an under crust.

Orange Souffle.

Peel and slice eight oranges; put in layers in a glass dish, with sugar between, and let stand several hours; make a soft, rich custard and pour over the oranges; spread over with a rich meringue.

HOMELY HINTS.

When anyone is exposed to a contagious disease that person cannot do better than use a gargle of equal parts of lemon juice and water and drink strong lemonade frequently.

If you are suspicious of the drinking water and cannot boil it or get better, use the juice of a lemon to a glass. The strong germicidal action of the juice should purify it.

In arranging the toilet of the sick, add lemon juice to the water used for bathing; it is refreshing and will reduce fever.

To clean the mouth, teeth and tongue of a patient, rinse or wipe with lemon juice slightly diluted.

The juice of a lemon in water, before breakfast and at bed time, is good for bilious troubles. Keep it up for several days.

Never drink the pure juice, always dilute it.

Bee and insect stings are relieved by a few drops of lemon juice.

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The location of our Seventh Colony is 7 to 12 miles south of the City of Bakersfield. It is

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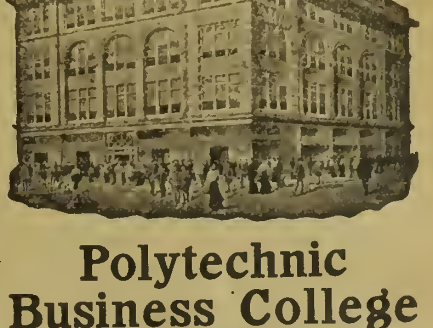

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LINERS

Liner Advertising

Advertisements in Liner Column 1½ cents per word. Eight words to a line. No advertisement taken forless than 25 cents.

TREES.

2000 SEEDLING AND GRAFTED WALnuts, fruit, ornamental trees, palms, roses. A thrifty, well grown stock. A. R. MARSHALL, nurseryman, sales yard cor. Third and Main streets, Santa Ana, Cal.

WALNUT TREES—5000 VERY FINE, LARGE seedlings. Seed selected from original Placentia Perfection grafted trees. Free from disease. Lowest prices. G. W. SHERWOOD, Fullerton, Cal.

BUDDED ORANGE TREES, VALENCIA and navel 2-year-old buds, clean and thrifty stock. Address F. E. CHAPMAN, R. F. D., box 34, Pasadena, Cal.

FOR SALE—SPECIAL PRICES ON 1300 Santa Barbara softshell walnut trees. W. R. CARPENTER'S ranch, Placenta, Cal.

FOR SALE—100,000 BLUE GUMS (FINE plants.) Address L. Z. HUNTINGTON, Anaheim, Cal.

FOR SALE—SPECIAL PRICES ON 5000 pepper trees and 500 muscat grape vines, one and two years old. Also 3000 Texas umbrella trees suitable for nursery stock. Wm. B. Smith, REDLANDS, CAL.

EGGS FOR HATCHING.

EGGS FROM MY PRIZE WINNING BARred Rocks; won all firsts, all seconds but one, and all specials on Barred Rocks at L. A. C. P. A. Show, 1907. Eggs from best pens. $3 per 15; $12.50 per 100. Stock for sale. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

WHITE LEGHORNS (HOWARD STRAIN). W. Wyandottes (Hubbard strain) Eggs; Leghorns, $5 per $100; Wyandottes, $7. Baby chicks FROM BRED TO LAY STOCK SHIPPED anywhere. Ranch 2 blocks from car. F. T. McLAUGHLIN, Gardena.

RAISE POULTRY—IT PAYS—ORDER your White Leghorn and Wyandotte eggs now. Also Incubator Chicks, thoroughbreds. Prices right. The SAN GABRIEL POULTRY FARM, San Gabriel, Cal.

S. C. BLACK MINORCAS—EGGS FROM special standard matings, $2 per setting. From good utility stock, $5 per 100. S. D. BICKFORD, Gardena, Cal.

POULTRY

WHITE WYANDOTTES—"CREAM OF THE Coast" strain—the 200-per-year kind. Barred Plymouth Rocks, my "Blue Diamond" strain, are great winter layers of big, brown eggs. No incubator lots furnished. Eggs per 13, after Jan. I, carefully packed, $1.50. Address WILLIAM C. PARKER, 111 Pacific avenue, Santa Cruz, Cal.

GERMFOE KILLS THE GERMS—GREATest disinfectant known. Sprayed about it prevents disease—a few drops better than a pound of cure. Large bottles 50c, or smaller bottle by mail prepaid same price, if your dealer hasn't it. Diluted with 50 to 100 parts water, a little goes a long way and costs but a trifle. WEST COAST MILL, 818 San Fernando St., Los Angeles, Cal.

BRONZE TURKEYS AND BARRED Rocks a specialty. Are noted for size and hardiness; all birds sold that I can spare. Fertility guaranteed. Am booking orders for eggs for hatching. Turkey eggs, $5.00 setting; Barred Rocks, $3.00 setting. Address, A. H. BLAKELY, rd No. 2, Ontario, Cal.

EGG-MORE, THE GREATEST OF ALL "egg-makers" and the biggest seller. Highly concentrated though not a strong tonic and stimulant. A little daily with the feed does the business. A 25-lb. $2.00 pail for $1.50, if you haven't tried it; freight prepaid by us, if you name this paper. WEST COAST MILL, 818 San Fernando St., Los Angeles, Cal.

ALTADENA ORPINGTON FARM—MATSON Hayden, Box 1001, Pasadena. Golden Buffs exclusively; fine male birds a specialty. Settings $10.00 and $5.00. Five winnings at show in Los Angeles, 1908. Satisfaction guaranteed.

S. C. WHITE LEGHORNS—I HAVE 35 hens and 2 cocks 19 months old selected breeders hatched from Howard's best pens. I will sell the lot for $70 or 17 hens and 1 cock for $35. CLYDE J. MOSS, Corona, Cal.

BUFF ORPINGTON DUCKS, THE GREAT commercial bird; good for market; great layers. Eggs now $3.00 per 12; $5.00 per 26 from our imported English blue ribbon strain. GOODACRE BROS., Compton, Cal.

DAYTON'S ROUP TABLETS ARE GUARanteed to cure or money back—not talk back—money. 50c by mail if your dealer hasn't . WEST COAST MILL, 818 San Fernando St., Los Angeles, Cal.

KILLAMITE KILLS THEM—BEST INSECT powder made for fowls or plants. 50c for 2½ lb. sifting can, express prepaid by us if your dealer hasn't it. WEST COAST MILL, 818 San Fernando St., Los Angeles, Cal.

FOR SALE—MAMMOTH BRONZE TURkey hens, $2.00 each if bought in lots of ten. Address, Mrs. W. B. RICHARDS, Holtville, Cal.

WEST COAST CHICK FEED MAY COST A little more, but you can't afford to feed the little ones anything but the best. Of dealers, or $3.50 cwt., f. o. b. Los Angeles. WEST COAST MILL, 818 San Fernando St., Los Angeles, Cal.

HEN FEED 12½ CENTS A BUSHEL doubles laying, cuts feed bill. Formula 25 cts. No lamp brooder (home-made) plans 25 cts. Echo poultry yards, MANSFIELD, MASS. Box 908.

HORSES.

FOR SALE—OR TRADE FOR COWS, 3 good brood mares, ages 12, 10 and 5 years; Will sell cheap, as I have no use for them; also a good ranch for sale on easy terms, and one O K. hay press. Address C. E. GARRETT, Hynes, Cal.

DUROC-JERSEY PIGS.

FOR SALE THOROUGHBRED DUROC Jersey pigs, four months old, both sexes; in good flesh and eligible to record. Pedigrees furnished. Price, $10.00 each if taken by March 1st, 1908. M EVERHAM, R. F. D. No. 2 Box 73, Kingsburg, Cal.

FOR SALE—TWO THOROUGHBRED Scotch collie pups. Write for particulars. J. W ZIN, Elsinore, Cal.

MISCELLANEOUS.

DELMONICO'S CHEF SAYS: "THE ANchor egg separator works perfectly; no well regulated hotel or household can afford to be without it." Send ten cents, or ten names of persons keeping poultry, and we will send one postpaid. WEST COAST MILL, 818 San Fernando St., Los Angeles, Cal.

EXTRA HIGHGRADE CHILIAN WATERmelon seed. White or red; sixty cents per pound. Fancy pineapple cantaloupe seed, 80 cents per pound by express. Mail fifteen cents additional—no culls. S. FAIRBURN, Burbank, Cal.

FERTILIZER SALE—SPECIAL, 3000 TONS of fine ground animal tankage in bags. Well balanced to produce both fruit and growth. Bought at panic prices. Carrol B. Smith, REDLANDS, CAL.

FOR SALE—I HAVE TEN TONS GOOD barley hay which I will sell cheap. Call or write. WM. HUME, Puente, Cal.

WANTED—Half A DOZEN FUMIGATION tents. Give price. F. E. FOLSOM, Anaheim, Cal.

BERRY PLANTS.

SIX HUNDRED THOUSAND STRAWBERry plants for sale—Klondike, Excelsior, Enhance A1 and Texas, $2.00 per thousand; *Arizona, $3.00 per thousand, f. o. b. Gardena, (after February 10th all plants will be $1.00 per thousand more.) Address D. P. DUNCAN, Gardena, Cal.

CLEARANCE SALE OF BERRY PLANTS—Himalaya Giants $3.50 per 100; $25 per 1000. Lucretia Dewberries $1.50 per 100; $10 per 1000. All good, strong plants. R. J. HUNTER, Gridley, Cal.

TWENTY-FIVE EACH OF LUCRETIA dewberry, Cuthbert raspberry, Mammoth blackberry, Logan berry and 250 strawberry plants, also several kinds of berries and an acacia tree all prepaid for $2.50; strawberry plants at $3.00 per 1000 prepaid. Larger lots at $2.75. TRIBBLE BROS., Elk Grove, Cal.

FOR SALE—MAMMOTH BLACKBERRY, 100, $3; 1000, $25; Himalaya Giant blackberry, 100, $4.50; 1000, $35. Express prepaid to California points, ADELBERT COOLEY, Laton, Cal.

WANTED—ONE-YEAR OLD LOGANBERry plants. Address P. O. BOX 2697, Fresno, California.

FOR SALE—3000 CRANDALL'S BLACKberries, fine plants at $10 per 1000. 1000 grafted field grown roses all the standard sorts at $15 per 100—the strongest rooted stock ever offered. H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

MACHINERY.

[illegible] 25-H. P. Fairbanks-Morse distillate engine at a very low price. 943 N. MAIN ST., Los Angeles.

FOR SALE—50 AND 60-H. P. FAIRBANKS-Morse distillate engines. Both in perfect [illegible]. A snap. WAITE BAILIE & CO., Los Angeles.

FOR SALE—CHEAP FOR CASH—15-H. P. Otto gasoline engine in first class shape; guaranteed. N. W. cor MAIN and BRUNO STS., Los Angeles, Cal.

ARTICHOKES.

FOR SALE—JERUSALUM ARTICHOKES—The great winter hog feed. Address FANCHER CREEK NURSERIES, Fresno, California.

FARM LANDS FOR SALE.

FOR SALE—I to 10-acre tracts on car line between Riverside and new cement works. Good for chicken ranches, alfalfa or gardening. Will sell on easy terms. Plenty of water on each tract. C. C. POND & N. R. BELL, Riverside, Cal.

FOR SALE—80 ACRES FINE ORANGE land 3 miles from good town on Southern Pacific in Tulare Co. Nursery going in next to it, must be sold to get cash. Price $30. ½ cash, Bal. 1 and 2 yrs. Worth $50. John Rupp, 525 S. [illegible]

FOR SALE—40 ACRES, LEVEL; FINE for chickens, vegetables, berries, etc., $30 per acre; a bargain. WM. MANTZ, Santa Maria, Cal.

GRAPE CUTTINGS WANTED.

WANTED—CUTTINGS OF THE FOLLOWing for grafting purposes: Rupestris St. George, Riparia x Rupestris 3306, Riparia x Rupestris 3309, Riparia x Rupestris 106-8 and Mourvedre x Rupestris 1202. Address FANCHER CREEK NURSERIES, Fresno, California.

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GRAPE VINES—ONE AND TWO YEAR old roots, very choicest kinds for table fruit. 15 strong rooted vines for $1.00 by express C. O. D. Southard Nurseries, REDLANDS, CAL.

POTATOES.

FOR SALE—YELLOW SWEET POTATO seed, 2½ cents per pound. E. G. METCALF, Phone Home Black 31, El Monto, Cal.

MELON SEED.

NO BETTER SEED GROWN THAN I OFfer you. Chilian watermelon seed white or red, 60c per pound; pineapple cantaloupe seed, 80c per pound by express. Mail fifteen cents extra; supply limited. S. FAIRBURN, Burbank, Cal.

The fruit growers of Hollister have formed an association to protect their interests, and the following officers were elected: President, J. G. Hamilton; vice, F. L. Barnisel; secretary, Wm. Chaney; treasurer, Wm. Johnson; executive committee, J. E. Boynton, Thomas Flint, Herman Schultz, A. Vehmuller, N. C. Briggs, Jr.

The Produce Market

Los Angeles Markets

LOS ANGELES, Feb. 12, 1908.

Butter.

Owing to the almost complete cleaning up of Eastern butter, prices have been materially advanced. Receipts of local creamery are very liberal, but on Monday an advance of 7½ cents was made. At present quotations the market is firm and sales brisk.

Creamery ex per roll	67½
Firsts	55
Dairy	45
Cooking	42@47
Eastern	50@55
"Butterine"	15@20

Cheese.

Cal Young America per lb	20½
Hand	20½
California Anchor	19
Northern fresh	17
Eastern singles	19
Imported Swiss	32
Tulare flats	18½
Domestic Swiss	21@22
Oregon	18

Eggs and Poultry.

Eggs have advanced and it is now claimed that the overstock of Eastern has been greatly reduced. The market is now firm and receipts only moderate. It is probable a lower price will prevail as the weather warms and receipts of local become larger.

Eggs local candled	25@26
Eggs case count	24@24½
Eastern storage	17@18
Firsts	15
Seconds	8@12
Hens per lb	14@15
Young roosters per lb	15
Fryers	18@20
Broilers per lb	21@22
Roasters	15
Old roosters	8
Turkeys	15
Geese	13
Ducks	14
Squabs	1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds	6
Prime steers	4½
Heifers	4
Calves per lb	4½@5
Sheep ewes per head	4.75
Lambs per head	3.75@4.25
Wethers	5.50

Potatoes.

Highlands	1.00@1.15
Early Rose	1.75@1.95
Salinas	1.75@1.85
Sweet potatoes per sack	3.25@3.50
Oregons	1.50
Idaho	1.25
White Rose	1.75

Onions.

Australian Browns	3.00@3.50
Oregons	3.30@3.50
Minnesota	3.00@3.25
Garlic	10
Ohio	3.25

Vegetables.

Artichokes per doz	75@1.00
do Jerusalem box	75
Beets per doz	25@35
Bell peppers per lb	14@15
Beans limas per lb	10@12
Beans green	8@14
Beans Yellow	5@8
Brussels sprouts per lb	7½
Cabbage sack	15@25
Celery per crate	2.00@2.25
Chili peppers per lb	8@10
Chives per doz	1.25
Cucumbers per doz	50@2.50
Cauliflower	50
Carrots per doz	30
Egg plant	10
Green onions doz bunches	20@30
Hubbard squash per lb	1@1½
Lettuce per crate	40@50
Mushrooms per basket	1.75
Pie Pumpkins	1½
Peas sugar per lb	5@6
Parsley	30
Parsnips	35@40
Rhubarb per box	1.00
Radishes per doz	15@20
Salsify	30
Spinach per doz	10@25
Squash box	1.00
Turnips doz bunches	40
Tomatoes per box	1.75@2.00

Citrus Fruits.

Navels fy	1.60@1.75
Navels ch	1.25@1.50
Tangerines	1.50
Culls	75@90
Grapefruit seedless	2.50@3.00
Grapefruit seedlings	1.75@2.00
Lemons fancy	1.25@1.50
Lemons choice	1.00@1.25

Fresh Fruits.

Bellefluers	1.90@2.00
Baldwins	1.25@1.50
Pippins 4-tier	1.50
Gravenstein	1.50
Alexandria	1.00
W W Pearmains	
Colorado Jonathans	
Guavas	
Loquats per lb	
Winter Nellis per lb	
Pomegranates per lb	
Persimmons	
Quinces	
Raspberries	
Strawberries	
Extra fancy	

Dried Fruits.

Apricots	1
Evap apples fy per lb	1
Figs loose	
Peaches	1
Pears	12
Nectarines	
Prunes	3½
Plums	11

Honey.

Extracted Water White	
Comb W W	11

Hay.

Barley No 1	14.00@
Barley No 2	11.00@
Alfalfa northern per ton	
Alfalfa new local	15.00@
Plain Oat No 1 new	
Wheat No 1	
Wheat No 2	

Grain.

Wholesale selling price f. o. b., Angeles.

Wheat new per ctl	
Wheat in 100-lb. sacks	
Barley	
Corn Eastern sacked	
White oats	

Feed Stuff.

Selling price F. O. B. Los An as follows:

Cracked corn	
Shorts	
Bran	
Oil cake meal	
Feed meal	
Rolled barley	

San Francis Markets

SAN FRANCISCO, Feb. 11, 1

Butter.

Butter has recovered from its r slump and was advanced on Mo nearly 5 cents per pound. Rec are fairly liberal and will con more so as the weather warms. ern storage has declined.

California extras per lb	
California firsts	
California seconds	
Eastern extras	
Storage Cal ex	23

Cheese.

California young American fy	
California flats fy	
Eastern fy	
Oregon fancy	

Eggs and Poultry.

Eggs have also taken a sharp vance and are now quoted at 27 fresh ranch. early all stock is cl up and new offerings are quickl sorbed.

Fresh ranch eggs	
Eggs firsts per doz	
Eggs seconds per doz	
Storage Cal Extra	
Eastern selected	
Firsts	
Hens per doz	4.5
Hens extra	6.0
Young roosters	6.0
Old roosters	4.0
Fryers per doz	5.0
Broilers per doz	4.0
Geese per pair	2.0
Ducks young	4.0
Turkeys per lb	
Pigeons	1.0

Potatoes.

River Whites	
Oregon Burbanks	7
Lompocs	1
Early Rose	1.1
River Reds	1.3
Salinas Burbanks	
Sweets per crate	2.5

Vegetables.

Artichokes Jerusalem per box	
Celery per crate	
Cucumbers per doz	1.0
Chili peppers per lb	
Bell peppers per lb	1
Beans Limas	
Egg plant per lb	
Green peas per lb	
Squash per box	5
Marrowfat squash per sack	
Mushrooms	3
Hubbard squash per sack	
Rhubarb per box	1
Tomatoes local	1.5
String beans	

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The all around Tilton
Apricot at special rates.
Hanford Nursery, Hanford, Kings Co., Cal.

rlic	4@6

Onions.

npocs	2.85@3.00
low Danvers	2.75@2.85
npocs	2.50@2.75
is	2.50@2.65

Citrus Fruits.

vels fy	2.50
vels ch	1.25@2.25
apefruit seedless	2.50@2.75
mons	1.50@2.50
nes	3.00@4.00

Fresh Fruits.

wtons	1.50@1.75
tzenberg	1.75@2.00
ars winter Nellis	2.00@2.50
megranates per box	1.00@2.50
inces per box	1.00@1.25
awberries per ½ crate	1,25@1.50

Dried Fruits.

ples (evap.)	7¼@9
ricots per lb new	18@20
rs white	3½@5
ctarines	10@13
ms pitted	12@15
aches	9@11
ars	9@12
unes 4 size bag basis	4@4½

Beans Dried.

mas	4.75@4.90
nk	3.15@3.25
nall white	3.35@3.50
rge white	3.00@3.10
dy Washington	3.30@3.45
ack Eyes	3.50@3.75
d Kidneys	3.25@3.50
rvanzas	4.00@4.25
yo	3.15@3.25
rse beans	2.25@2.40

Hops.

ps per lb	6@9
ps old fancy	2@4

Hay.

oice wheat hay	16.00@17.50
od wheat hay	14.00@15.00
her grades same	11.00@14.00
heat & oat	11.00@15.50
me oat	11.00@15.00
ild oat	9.00@12.00
ck hay	7.50@@9.50
falfa	9.00@13.50
raw per bale	50@.90

Grain.

heat No 1	1.60@1.62½
rley No 1	1.40@1.42½
falfa local	9.00@13.50
me oat choice	11.00@15.00
ld oat	9.00@12.00
heat and oat	11.00@15.50
heat choice	16.00@17.50
rn large yellow	1.60@1.65
ts white	1.52@1.57½
ts red	1.70@1.75

Feed Stuff.

n per ton	29.00@30.00
ed cornmeal per ton	35.00@37.00
racked corn per ton	36.00@38.00
lled barley per ton	30.00@32.50
l cake meal per ton	38.50@39.00
coanut caks per ton	26.00@27.00
ddlings	32.00@35.00

Citrus Market

LOS ANGELES, Feb. 12, 1908.

The prices offered for oranges are
ot fully up to desires of growers. The
eather in the East is very unfavor-
ble. The cold has driven in all buy-
s and almost no inquiry prevails.
ortunately the storms in California
revent extensive shipments. Friday
nd Saturday's shipments were heavy,
ut the Sunday storm stopped picking
gain so that it is hoped the weather
t the Eastern end will turn favorable
nd clean up stock in hand before
eavy shipping begins again. Less
han 100 cars per day are being for-
arded at this time. By the first of
larch the shipments will probably ag-
regate 150 or more cars daily.

There has always been one peculiar feature regarding February shipments. They have for three years shown a less daily shipment average than either January or March. It now appears that this year will be no exception.

Lemons are firm and shipments going forward freely. Some foreigns are coming, but not seriously interfering with the market.

Shipments.

Total shipments of citrus fruits since Nov. 1, 1907, 6788 cars, of which 1151 were lemons. To same date last year, 5728 cars, of which 724 were lemons.

NEW YORK, Feb. 10.—Market is easier on navels. Practically unchanged on lemons. Weather clear and favorable. Twenty-five navels and two lemons sold.

NAVELS—	Avg.
Ocean F H Speich & Co	$2.35
Fountain Moffatt & Co	2.15
Our Popular F H Speich & Co	1.95
Alta Cresta Rumsey Alta Crest	2.70
Robusta Rumsey Alta Cresta	2.30
Gold Buckle R H Ft Ex Red	2.80
Lochinvar R H Ft Ex Red	2.40
Lochinvar R H Ft Ex Red	2.25
Stag ACG Ft Ex Azusa	2.35
Iris DM Ft Ex Duarte	2.40
Victoria AH Ft Ex	2.60
Pine Cone S B Ft Ex	2.30
Blue Seal ACG Ft Ex	2.40
Green Crown ACG Ft Ex	2.00
Blue C Covina Ft Ex	2.15
Dan Patch S B Ft Ex	2.20
Dos Palmos San Mar Gr Asso	2.20
Camelia Red Mut O Asso	2.25
Blossom Red Mut O Gr Asso	2.05
La Mesa Riverside Ft Ex	2.15
Lochinvar R H Ft Ex	2.20
Pointer ACG Ft Ex	1.95
Lion Head I L Lyon & Sons	2.35
Whittier W L Whittier Red	2.50
Old Mission C C Chapman Fulln	2.65
LEMONS—	
Independent Gr Ft Co	2.25
Rialto Girl Gr Ft Co	2.45
NAVELS—HALF BOXES—	
Golden State T C Ft Ex St car	1.10
Sunset	1.05
TANGERINES—	
Blue Seal A C G Ft Ex	1.50
Orchard Nat O Co	1.70

ST. LOUIS, Feb. 10.—It is raining. Market firm on good stock. Eight cars sold. Ten on track.

NAVELS—	
Lochinvar R H F Ex E High	2.20
Volunteer S A F Ex N Pomona	2.70
Searchlight S S F Ex Orange	2.00
Tulip TCC Fx Porterville	1.95
Fullvalue TCC F Ex Porterville	1.85
Producers Red O P Co	2.30
Belt R H Ft Ex E High	2.05
Greyhound S A Ft Ex N Pomona	2,15
Forgetmenot TCC F Ex Porter	2.20
Oakleaf TCC F Ex Porterville	2.00
Golden Flower Red G O A	2.30
LEMONS—	
Fullvalue TCC F Ex Porterville	2.25
Coyote O K F Ex O K	2.10
Greyhound S A F Ex San Dimas	2.55
Quail O K F Ex OK	2.30
Pet S A F Ex San Dimas	3.00

PITTSBURG, Feb. 10.—Weather cold; market steady.

NAVELS—	
Quail O K Ft Ex O K	2.10
Golf S T F Ex Arroyo P	2.15
Stag ACG Ex Lateen S	2.30
Jasmine DM Ft Ex Monrovia	2.10
Our Popular F H Speich & Co	1.55
Violet D M Ft Ex Duarte	2.15
Bonnie ST Ft Ex Arroyo	2.05
Pointer ACG Ft Ex Lateen S	2.05
Violet DM Ex F Ex Monrovia	2.20
Mt. Lion F H Speich & Co	1.90
Gabriella Independent F Co	2.35
LEMONS—	
Bridal Veil P McKevitt	2.25
Pico ST F Ex Whittier	2.35
Whittier S T Ft Ex Whittier	2.30

PHILADELPHIA, Feb. 10.—Five cars navels sold. Weather cold; market steady; 3000 boxes Florida oranges sold; market unchanged.

NAVELS—	
Forgetmenot TCC F Ex Porter	2.25
Cosmos S B F Ex Yerkes	2.17
Highland Grs Ft Co	2.19
Quail O K F Ex O K	1.93
Coral S B Ft Ex Yerkes	2.08
Rossmoyne Grove E M Ross	2.13

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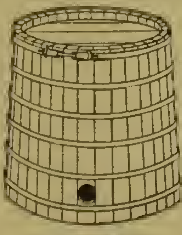
C. H. Clayton, Agent Los Angeles, Cal.



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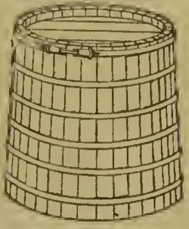
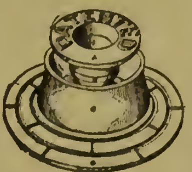


Water Tank



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14 H.P. 7000 FEET
ACTUAL CAPACITY 25 TO 50 % MORE

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Are Strong and Durable Fully Guaranteed in Particular. We make plete Irrigation Outfits.

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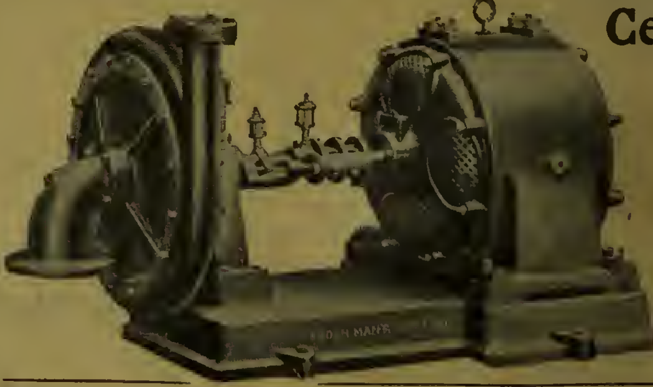

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California Cultivator

os Angeles February 20, 1908 San Francisco

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Old Mission Grant of 16,000 Acres

Courtesy of the Los Molinos Land Co.

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in raising young chicks depends greatly on the feed given to them for the first six or eight weeks.

BY FEEDING

COULSON'S SPECIAL DRY CHICK FOOD

during this early stage you will get the chicks through their time of danger in a healthy and vigorous condition.

THE REASONS FOR THIS ARE MANY—First, each ingredient is carefully selected for its purity, wholesomeness and fitness as a food for a baby chick. Then the strength is considered. A *specially strong* grade of *wheat* is used, as well as *steel cut oats, millet,* and the *best* of *meat.* These are all carefully granulated so that the chicks do not get anything too large, and the grains, etc., are mixed in sufficient variety to *insure* a *perfect balancing* of the different properties which go towards *growth* and *vigor.*

Then again the feed being *free from dust,* can be fed in straw or litter, inducing exercise, and *increasing the strength* and *health of the chicks.*

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Agents for Southern California

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California Cultivator

ol. XXX—No 8 Los Angeles, California, Thursday, February 20, 1908 Subscription $1 a Year

The Melon Aphis

Prof. C. W. Woodworth of the State University Writes of the Aphis Which Has Devastated Many Melon Fields in California. He Has Been Making Investigations at Whittier Station for Some Weeks

EVERY year there is more or less loss experienced by cantaloupe growers due to the work of the melon aphis.

This plant louse is now present all over the lley, particularly common on pepper grass and ore rarely on alfalfa, and as soon as the cantaupes are out of the ground they will be in danr of becoming infested.

hat to Do.

Every grower of cantaloupes should, therefore, ke immediate measures for the destruction of such weeds as pepper grass along ditch banks d roads for a quarter of a mile at least from field he is planting to this crop, particularly wards the direction of the prevailing winds. alfa fields should also be very closely pastured the next few weeks so as to remove all rank wth which serves as food for these insects.

e Life of the Melon Aphis.

he melon aphis is a very widespread pest, be- found all over the United States, and attack- a larger number of kinds of plants than any er known species of aphis. It was first de- bed as a pest on cotton, and is the common k aphis of citrus trees and attacks a large of weeds, including pepper grass, pig weed dock.

he full grown aphids are of two kinds: A y prolific, wingless form and a wandering ged form. The wingless lice are produced n the conditions are most favorable for wth. Their rate of reproduction is incon- ably rapid. A single aphid could easily have y hundred million descendants in a month. winged form, while very much less prolific n the other, is quite as important to the grow- since it is the same by which the species dis- utes itself. When a winged louse finds a rable spot it settles down and is soon sur- nded by a prosperous family of the wingless l.

itering.

ll the individuals in the case of this species females; males have never been seen, and all g forth living young as far as obsrvations have gone, except that once in Illinois, what appears to be the same insect, was discovered depositing eggs on strawberry plants late one fall. It is probable, therefore, that in regions where there is a long winter an egg laying form is developed. Here in California the insect is active all winter and eggs may never be produced.

Ants and Plant Lice.

The idea is quite prevalent that the ants that attend them and feed on their excretions in the summer take care of them over winter. One species of ant has been proven to do just this thing in the case of another species of aphid attacking the roots of corn. There does not seem to be any evidence, however, that anything of the kind occurs here. Small colonies are not usually accompanied by ants. The honey-like secretion of the lice is so attractive to ants, however, that before a colony of lice becomes very large the ants will usually have discovered it, and then remain in constant attendance.

Disappearance of Aphids.

No other species of plant lice presents in a more striking form, the phenomenon of the complete disappearance of apparently prosperous colonies. One may see today a thriving colony where everything seems favorable for their growth and continued development, and the next time one looks for it, only a few cast-off skins and perhaps a few mummies of parasitized or fungus-infested individuals remain to mark the spot where before there were hundreds or thousands of living creatures.

If there are a few ladybirds present they are usually credited with having eaten them up, but I have never seen ladybirds abundant enough to eat more than a very small fraction of the number present, and the disappearance is equallly as sudden and complete where no ladybird or other predaceous or parasitic insect is present.

These disappearances are probably due to some general condition, since a whole orange grove, for instance, will become suddenly free from this aphis. In the melon fields one may be badly injured and the next one scarcely at all, though both may have been apparently nearly equally infested. In one case the colonies thrived and the other succumbed. One of the lines of study the writer proposes to take up this season, is to determine if it is possible to so control the conditions of a field that the plant lice cannot thrive.

Remedies.

The measures usually recommended for this insect are spraying with kerosene emulsion or with tobacco decoction, or fumigation with carbon bisulphide, nicotine or cyanide. We may experiment along all of these lines this season. Melon vines are very difficult to spray, but could be handled at an expense of somewhere between five and ten dollars an acre. Fumigation, while proven to be very affective on a small scale, has never been developed into a practical method for large scale work for field crops. After it is put on a practical basis and one has gone to the expense of suitable covers or tents, the actual cost of treatment would probably not be very much greater than for spraying. It is doubtful, however, if either of these will be very practical under our conditions.

Recommendations.

At the present time the measures we can recommend are as follows:

Look after weeds as suggested at the beginning of this article. The lice flying from weeds or from alfalfa fields, as far as we know now, are the sole source of the infestation of a field, and pepper grass is by far the most important source. Especially should one look out for weeds to the windward, since the direction of their fight is largely determined by the wind. This preventative measure is of prime importance.

Keep watch of the fields and annihilate every colony as soon as found. Each insect flying into a field and establishing itself upon a plant will usually then cease its wanderings and thus infest only a single plant, and may be discovered before it has infested more than a single leaf or the growing tips of a vine. This work of inspecting should be kept up till the infestation begins to become too general to cope with, and by that time, perhaps, the worst danger from the insects will have passed.

Courtesy J. W. Webb, Sec., Stanislaus Board of Trade, Modesto.

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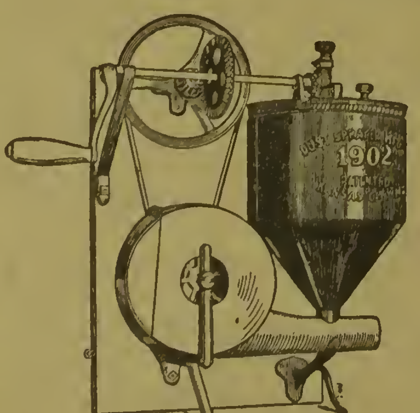
Wholesale Growers of Deciduous Fruit Trees and Vines

Send for Price List

DUST SPRAYERS



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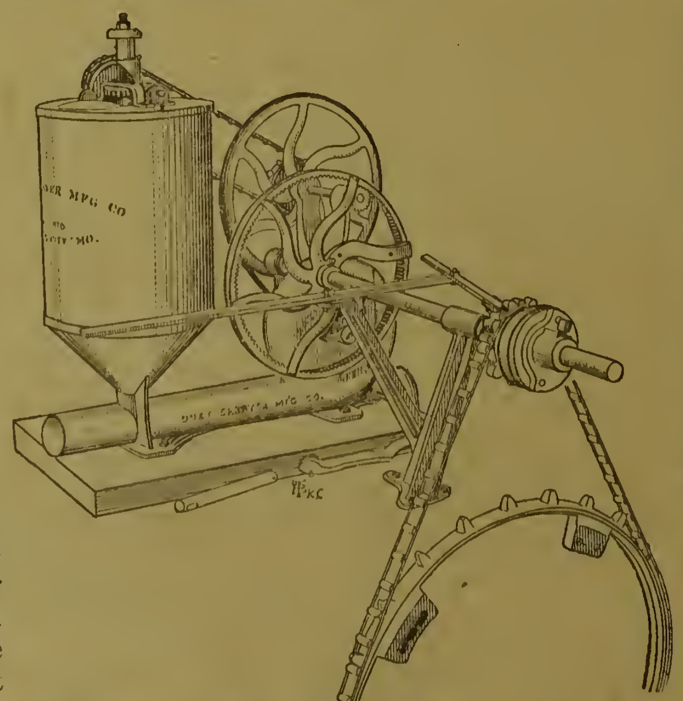

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SAN FRANCISCO SACRAMENTO LOS ANGELES

Deciduous Fruit Cultur

FRUIT GROWING IN CALIFORNIA.

THE geographical location of California, together with its topography, gives to the State an advantage from a horticultural point of view that can not be duplicated with a combination of several States that are prominent in fruit growing. California keeps pouring into the markets of the world a stream of fruits every day in the year fresh from the trees. There is no well defined season for the harvesting of fruits. At the time citrus fruits are still leaving the State in train loads, the desert section commences with its early fruits and vegetables and by the time these are cleaned up, the large valleys of the central portion of the State begin shipments of the same products and continues to do so till late in the summer, when the coast and bay regions take up the same products and so continue till winter comes, when the citrus harvest again is in full swing.

Diversity.

Where can we find such a diversity of products coming into the markets throughout the year as we find here? Southern California alone has a varicty of products that in itself is hard to duplicate. Within a radius of fifty miles are grown winter and early summer apples, lemons and limes, oranges, walnuts and lima beans, pineapples and winter tomatoes, grown on a commercial scale in the field, and requiring at least four different classes of climatic conditions. As stated above, California enjoys the distinction of possessing three distinct climates in which the same products may be grown and matured in as many different seasons of the year. An immense area at the extreme southern end of the State, harvests its cantaloupes in June, its tomatoes in April, May and June; also its apricots in June, and its oranges in October and November. Northern and Cent California follows with the s products just after the desert co try finishes its harvest, and t comes the coast regions with anot installment of the same produ Aside from this, certain sections particularly adapted for rai special products. Here the spec ists in horticulture find ideal co tions that have made California mous.

The climatic conditions render manipulations of the soil and t somewhat different in the diffe localities. For instance, in the ert regions rain is not counted and, in fact, is not desired, whil other sections rain is essential its occurance renders practice tirely different.

Big Claims Injurious.

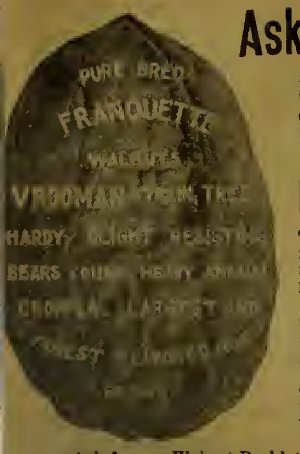
The fruits that are raised in sections subject to rain and sold on their beauty of c as much as on their real qua are inferior when raised in the r less regions. The quick maturin the fruit prevents coloring and, consequence, the products that much on their looks are not ada to the desert country. Here fruits that naturally have li color, ripen and develop to per tion long before the same vari elsewhere are grown to full size.

With one or two exceptions, desert grower must confine his pl ings to light colored fruits, espe ly grapes. The fact that in this gion grapes come into bearing second summer after planting cuttings, the fruit being ripe and of the way before same class of is ripe in other sections, has sti lated a big demand for grape v and cuttings, and the chance for takes is great. Planters being anxious to secure vines and cu are apt to be the victims of uns ulous dealers.

There is one statement that gone the rounds that is liabl cause much loss to grape gro It has been and is now being and published, that one acre of ple Cornichon grapes netted grower $700. This is true, bu was a mere chance. Having the grapes in the vineyard at time of picking, we are in a po to judge. The grapes were a steel grey in color when ripe were devoid of flavor. Some sent to the Los Angeles marke were thrown onto the garbage They were so utterly poor in a ance and flavor that no one buy them. The bulk of them shipped to Chicago, where they in competition with edible g and they were promised the fate that came to the Los A consignment, but a brother o shipper happened to be in C when they arrived and knew tha New York market was bare sent them right on where they bid in by dealers at several d a crate. How the dealers got them we could not ascertain. grower decided not to take any chances and will graft them o another variety. Flaming Tok planted to some extent and poor quality. It, however, brin fair prices as White Tokay It East.

Early Varieties.

In this region, plantings sho confined to early varieties that



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lace your order now for good, rong plants. While the berries 'mewhat resemble the Logan, ley are far superior for Jams, :c. Prices very reasonable.

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The Brandyvine Strawberry has proven itself to be the most profitable variety with us, although we have tried nearly all of Kellogg's strains of plants.

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Eight varieties, thoroughbred plants.

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Surprise (earliest known) Millers, Cuthbert. ***Dewberry, Loganberry, Phenominal berry plants.*** Mention Cultivator and send for Catalogue.

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rees French Prunes and Apricots, Muirs and Tuscan Clings, and many other varieties of Peach Trees; all fine budded stock. Large stock of all the ing varieties of Apples, grafted on whole roots free from all pests. Also a fine stock of rries, Pears, Plums, etc. Send for price list.

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till have some fine grafted and seed- walnut trees to sell. Postal will prices, etc.

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Grown from carefully selected seed
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.D CYCLE CO., Dept. L-258 Chicago, Ill.

through refrigeration in good shape. Malaga and Purple Damascus have done this, and there may be some other varieties that will do as well. Luglienga and Persian No. 21 are promising. These are white grapes with an amber coloring, that gives them the appearance of the Thompson Seedless, which is a favorite grape in all the markets. These two varieties are, however, much earlier than Thompson Seedless, and are considered by many to have a better flavor. It is gratifying to find in California one place where the Luglienga does well. It was imported many years ago by the California Experiment Station and recommended as a good arbor grape, being the earliest ripening grape known at that time. It proved to be one of the most barren varieties wherever it was planted, until it was sent to Indio some years ago where it proved to be a heavy bearer. It was afterward sent to the Imperial valley where it also proved to be prolific. It has so far proven to bring best returns per acre of any grape grown in the desert region, when shipped to the local markets. Its shipping qualities under refrigeration have not been tested.

Near the Coast.

Near the coast, Purple Cornichon and Tokay color well and are good late grapes, as grown in Southern California. In the interior valleys of the north and central portions of the State these two varieties of grapes are grown at great profit. The red, sandy loams in the San Joaquin valley and Sacramento valley produce a Flaming Tokay that is unequaled in any other section of the State. They ripen in the proper season and develop a high flavor. In many places in the Sacramento valley, and especially in Yuba county, Purple Cornichon and Flaming Tokay are grown in the same vineyard, though they require entirely different soils. While the Tokay requires a red, sandy soil to mature the best color, Cornichon needs a heavy soil with a red or yellow subsoil to develop properly. "Ridge" land has this combination, Tokay's doing their best on the ridges and Cornichon on the low land. Here, also, Thompson Seedless does particularly well. Certain lands around Fresno are famous for their Red Emperor grapes. All three of these varieties of grapes are in great demand in the Eastern markets, and California has established her reputation on them, and the demand for them is still growing. The possibilities in this one line alone are beyond calculation, when fruit that is beautiful in color and exquisite in flavor can be put on the markets of the world when the Eastern fruit is well cleaned up.

In California Valley.

The whole length of the two great valleys of Central California is well adapted to the growth of canning peaches, and the quality of the California cling peach as put up in cans cannot be excelled. These peaches have been bringing prices that have made the growers rich, and the rapid increase in the acreage that has been coming into bearing in the past few years has not affected the price at all, but on the whole, there has been a steady increase in the price paid by the canners. Proper treatment and good culture has improved the quantity and quality of the product, so that the demand at high prices is a solid one and will, no doubt, always be maintained.

Greater Things Coming.

Other varieties of fruits ripen at a time when the Eastern markets are bare of fresh fruits, and with the new developments in handling fruit before and during transportation, has made fruit growing one of the most promising and attractive occupations that can be offered. The State has made much progress in growing and handling fruit during the last few years, but it is a small showing in comparison with what is now in on the eve of development.
—J. W. Mills.

The Superlative Raspberry...

Too much cannot be said in favor of the Superlative. It is a red, sweet berry three times as large as any other Raspberry, to my Knowledge. It is a continuous cropper from May to November. I counted on one cane 472 berries of different sizes. Just think of a sweet Raspberry as large as a Red Logan. Do you know what that means? It means for years to come heavy demand for fruit and plants. Every nurseryman will want a big supply. It is a stiff, upright grower and it throws its young plants from the roots called suckers. The plants should be planted in rows 3 feet apart in the row, and the rows 5 feet apart. A good mulching in the spring will help them crop heavier all summer. Plants planted now will give you a nice lot of fruit this coming summer. In order to get the true Superlative I imported 10,000 plants from the producer. I warrant my stock to be true to name. See cut of berry above. Now is the time to plant. I warrant every thing I sell. Also guarantee safe arrival of plants, and if not satisfactory on arrival, return at my expense and money will be returned at once. Also colored plate with Catalogue.

Superlative Raspberry, 2 Years Old, 50c Each; $5 per Dozen; $35 per Hundred.

Less 20 Per Cent if Cash is Sent With Order

A Guarantee Will Be Sent with Each Shipment as to Trueness to Name

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Himalaya and Crandall Blackberries, Burbank's Phenomenal and Loganberries, and Gardena Dewberries. For prices and information address,

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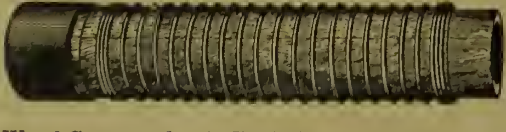

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Benefit from Cover Crops

BY JAMES MILLS, RIVERSIDE.

A continuation of Mr. Mills' address from last week.

Liebig and other great scientists wrote years ago that the time was near when the nitrate supplies of the earth would be exhausted; that because of the tremendous evils, that follow our methods of cultivation the earth would be wasted, the nitrogen of the earth would be washed out and lost, and that all the sources of nitrates in Chili and elsewhere would be exhausted and man would die because fertilizers could not be found anywhere to continue the growth of plants on which he lived; and it was when they found this little micro-organism that they appreciated the fact that Nature did not leave out a link in the cycle of life. I say the mission of these little bacteria is just this. Plant life decays, plant life is growing; animal life lives upon it, animal life dies, decomposition comes in. Bacteria, through their activity, decompose them. The nitrogen that is in the plant, the nitrogen that is in the animal, goes off again into the atmosphere; and right there comes in the bacteria, working in the leguminous plants and independent of them, also, and lays hold of the free nitrogen, carries it back into the soil, there again to begin the cycle that it went through for millions and millions of years—eons upon eons of time. God, in his great wisdom and power, has not left us helpless, then, but has provided us a means to get that which we need for the life of the soil.

A Mission.

This humus has a great mission to perform. It is physical life—it gives physical life to the soil. You and I cannot do our work properly, cannot do it well, cannot do it happily, unless we are physically strong. No matter how powerful the intellect of man may be, if that powerful intellect is in a tiny, sickly body, it is unable to do the great work which the Creator intended it should do, and therefore, it becomes the duty of man everywhere to preserve this tabernacle of his soul that it may enable him to do the work given him by God, for himself and his fellows on the earth. It is true also of the soil; it must be kept physically well.

We, in this building and in our homes, need fresh air. We open the windows and the doors that the air may freely circulate and that we may have the oxygen to breathe into our lungs. It would be very bad for us if we closed down the windows and closed the doors and breathed again and again the noxious gases that we gave off through the hours of the day from the lungs. Thus, we want the air to circulate. It is true also of the soil. The soil wants aëration, it wants to be kept open so that the air may circulate in it. The roots need to breathe, the plants need to breathe; the bacteria give them the oxygen to live upon. The soil needs ventilation—that the noxious gases, poisoning the roots and poisoning the soil if it has not opportunity to get away, must have that opportunity to escape. Ventilation! And, therefore, in the soil we must work to keep up that condition of aëration and ventilation. Humus, mixed with the earth in sufficient quantities, brings about that condition. It also enables the soil to contain more water. It gives it a greater abs tive power for water.

Will Absorb and Hold Water.

You know, as I know, that growth of one ton of solid matter it whatever crop it may be, cerea fruit, requires from three hun to five hundred tons of water, wl must be pumped up by the system and root pressure and face tension from the subsoils of earth. Now, when we increase n and more the holding power of soil for water we have done a mi good thing for ourselves. Take, instance, one hundred pounds sand. It will absorb twenty pounds of water, and it will hol for about four hours. Take one l dred pounds of humus soil and it absorb one hundred and ninety pounds of water and hold it weeks. Is it not, then, the part wisdom that we so cultivate our s as to increase constantly from to year the amount of humus, in der that we may get a better aëra and better ventilation and a grea holding power of water?

I want to tell you an incident happened on a certain soil d South. There was a twenty- tract of orange grove that took immense amount of water. T we allow one inch to five inches the irrigation during the year. twenty acres took ten times water that was alloted to it, could not have been held in cult tion if it belonged to an indivi who had only the water that was longing to that twentw acres— inches of water, four to twenty, to five. Samples of the soil taken for eight feet down, ever inches of the way. They were ta to the laboratory and put under microscope, and behold what found! Piles of building s You see on the side of the road the foundation of a great build piles of stone with jagged edges spaces through which a cat may Just so was that soil, not to that ent, but under the microscope s ing like that. There was nothing gravel. That was the trouble. humus had been worked out an not been replaced. Barnyard ma was put in the soil, covered u Cover crops were sown, one a s mer crop of cow peas, the oth crop of Canadian peas, and the year this happened: They were dered not to irrigate that soil. T had been a splendid rain in the ter. The rain went down along root system, percolated deeply the soil and filled the subsoil. L month after June there was d hole ten feet deep, twelve feet and eighteen inches wide, and that the man went and examined soil, finding considerable moistur the subsoil, and, coming out, the was filled. You have got your tem; go after the water; it is th the function of your roots is to water—get it; and the water held off until October; not an ir tion; constant cultivation, how so that no loss of water would place by evaporation, but that e drop of water would go through hair root and up into the trunk through the tree to the leaf,

Continued on Page 211.

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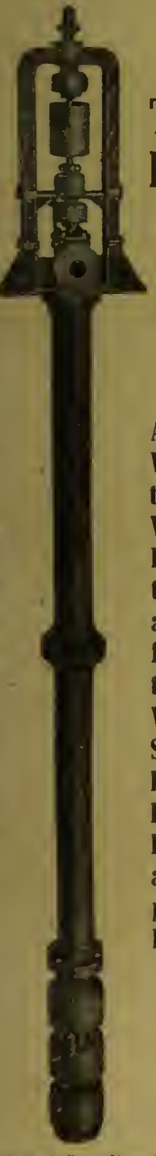

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All Sizes for Orchard, Field or Engine
24 Inch and 28 Inch Discs
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Write for Catalog. 112-118 S. Los Angeles St.

BUTTE COUNTY'S ORANGES.

WITH the roots of her trees in the sands which are filled with gold, is it any wonder that Butte county is producing golden fruit? Some of her orchards have even been uprooted by the great dredgers, hungry for the gold at the roots rather than at the tops o fthe trees.

But there are yet many fine producing orange ranches there. Regarding these we wrote Mr. Duncan C. McCallam of the Oroville Chamber of Commerce for information, and he sends us matter, from which we take the following:

Orange growing in Oroville dates back about the year 1867; at that time Hon. Charles F. Lott, who is still a resident of Oroville, secured seeds from the pioneer tree of Butte county growing at Bidwell's Bar, and planted them in his door yard in this city. Thrifty trees grew from this initial planting, and the seeds from them, together with further drafts on the old Bidwell Bar tree, furnished our city with the trees which now adorn nearly every yards; the crops were early, bountiful and of good quality. In 1887 Oroville oranges were placed on exhibit for the first time at a citrus fair held in Sacramento city, at which oranges from all parts of Northern and Central California were exhibited.

At about this period injunctions were obtained against hydraulic mining, which industry was at that time one of Oroville's most foremost, and that the city should recover as far as possible from its loss the citizens, determined to re-establish their prosperity by giving Oroville and vicinity every opportunity of proving herself one of the greatest citrus-fruit producing regions of California.

From this beginning there is now upward of sixteen hundred acres in and about Oroville planted to oranges.

Conditions such as surround Oroville's orange industry seem worthy of the widest exploitation. The fruit is largely marketed through the California Fruit Growers' Exchange. The local association is in splendid financial condition, each succeeding season seeing it materially strengthened in that respect. The officers and directors are: Glenn W. Miller, president; E. Tucker, vice-president; C. F. Lott, Fred H. Gray, J. F. Fitzgerald, W. H. McNamee and A. Bartlett, while the Bank of Rideout, Smith & Company, is treasurer, and Duncan C. McCallum, secretary.

The bulk of Butte county's orange crop is grown in what is known as "The Thermal Belt," a narrow strip along the base of the mountains, covering that portion of the foothills lying between altitudes of about 150 to 600 feet. The Thermalito, Wyandotte and Palermo are also strong factors in citrus production. This is especially true of Palermo, which has great possibilities for future development.

1908 INCUBATORS AND BROODERS.

One of the handsomest little catalogues we have seen relating to the poultry supplies and incubators, is one issued by the Henry Albers Co., 534 S. Main St., Los Angeles. In fact, this is the first catalogue issued since the firm has occupied its new quarters, and we presume it is, to a certain extent, due to the desire to celebrate getting into the new and larger quarters. That the book may be of such value to the poultryman as to merit keeping; it has blanks for egg records and a fund of information which will impel every poultryman to keep it on a handy hook. It is punched ready for a ribbon so that it may be placed on the same nail with the family almanac. We doubt not that it will be sent for the asking, if the Cultivator is mentioned.

CENTRAL CALIFORNIA ORANGE SECTION.

On a Sunday afternoon some months ago it was the pleasure of the writer to take a stroll out from the little city of Porterville toward the hills, and even on to one of the hills. The climb was well worth the effort, for the view of orange groves in the immediate foreground, the town farther away and the great stretch of fertile, productive San Joaquin valley off in the distance, was an inspiration.

The orange and lemon clung close to the hills, but the beautiful dark green of the trees stretched like a long ribbon both to the north and south for miles.

Lindsay is not far away to the north, which is a great producer of fine fruit. Beyond is Exeter and other good producers. Altogether, this section produces about 2500 cars of fine fruit.

Land is cheap, soil is productive, water is plentiful and a great future is promised.

We had hoped to hear from Mr. A. E. Miot, secretary of Tulare County Board of Trade, an article on the possibilities of citrus culture in Central California, but our request did not reach him in time to give him opportunity to comply.

In a short letter, however, he says:

Owing to the haste with which we have to reply to your communication we can, of course, give you only a synopsis of the condition of the citrus industry in Tulare county. The season's output of navels, which will amount to 2500 cars, (an increase of about 800 cars over last season), is now (Feb. 6th,) practically havested. The early shipments, leaving here the latter part of October and first of November, arrived in the East just at the height of the financial flurry and, of course, brought small returns, but with the rally of the market later on and the increase of the yield over last season, this season has been fairly satisfactory to the growers. The general outlook seems to be so satisfactory, that this year's planting will exceed that of last season. Last year something over 3000 acres was added to the acreage. It is estimated that 5000 acres will be planted this season. Much leveling of land and preparation for planting is now going on, and the nurserymen inform me that nursery stock is becoming exceedingly scarce. The horticultural commissioners report that the groves are in an unusually healthy condition and remarkably free from pests of any kind. There is a strong demand for land in the citrus sections, and the future outlook for the citrus industry is particularly bright.—Arthur E. Miot.

MORE POULTRY MONEY.

The Sure Hatch Incubator Company has been compelled to get out another edition of the book on "Poultry Profits" to meet the many calls for free copies that keep coming in from people all over the United States. This book contains the experience of hundreds of the most successful poultry raisers in the country. In fact, it is a complete poultry raiser's guide, adapted to the needs of the beginner as well as the one who has had considerable experience. Each of our readers should write for a copy of "Poultry Profits."

The Sure Hatch Incubator Co., Box 150, Fremont, Neb., or Dept. 150, Indianapolis, Ind., is the largest Incubator concern in this country and its "Sure Hatch" Incubators are wonderfully successful. They are built of California redwood and fitted with the most scientific hot water heating

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At the celebration of the completion of the Yorba dam near Anaheim plans are made to feed nearly 1000 people.

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TENT MAKERS LOS ANGELES

Wish to call attention to the fact that under their big roof are manufactured the Woodward also the Wilson Fruit Picking Bags. Articles to be found in every up-to-date orchard and for sale by every Wise Dealer in the land. If your Dealer is Not Wise, send to us for our Picking Bag Catalogue; it will be sent postpaid, and with pleasure.

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that please and beautify
Write for our new illustrated Catalog descriptive of the leading California Fruits, Roses, Ornamentals, Eucalypts and everything for the orchard, avenue and garden.
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Orchard Planting and Care

BY R. M. TEAGUE, SAN DIMAS.

THE California Cultivator has been good enough to ask me to contribute an article on the culture of the orange and lemon for its Citrus edition. This in its broad sense is rather a large subject, covering in its entirety, the soils and climates, methods of propagation and cultivation, manner of picking and finally, the harvesting and marketing of the product. For the most part these basic principles of our leading industry are pretty thoroughly understood by the owners of orange and lemon groves in this State. The side issues, such as the finding of injurious insects and diseases, the selection of proper varieties, the training and pruning of the trees have also been rather thoroughly exploited. It would seem that in the evolution of citrus fruits in California, that we have thoroughly mastered the difficulties in a way, and we have tested understand them at present, find u off the market. For instance, experi ments carried on in the Imperial val ley have demonstrated that the or ange will mature its fruit there m earlier than in Riverside and San Gabriel valley. We have a learned that in the Tulare district, the heart of this great San Joaq valley, that the orange and lem will ripen its fruit as early as t latter part of November, thus t crop harvested at that point is pr tically off the market at the time th Riverside crop is at its best. Th diversity of climate, coupled with th earlier and later periods at which fruit ripens, has suggested to me th thought that when we shall on have thoroughly exploited the possib ties of citrus culture in this State, shall learn that over a very large s son of the year the orange will found in a marketable condition

—Courtesy San Dimas Nurseries.
NURSERY TREES BALLED FOR PLANTING.

out all the inferior varieties of both oranges and lemons until we have simmered down to what are really the money making sorts. Strange as it may seem, these have been by a law of elimination reduced down to a very few kinds. In the orange, we have first the Washington navel, then the Valencia Late, Thomson's Improved navel and possibly two or three others, such as Ruby Blood, Mediterranean Sweet and the Paper Rind St. Micheal, with the Mandarin and the Kumquat as profitable novelties; in the lemon, it has simmered down to about two sorts, the Eureka and the Villa Franca.

As an economic proposition, it would seem at this time wise to attempt the improvement of these sorts; that is to say, extend the season of the Washington navel over a wider space of time, improve the shipping and eating qualities of all of these varieties as much as possible. These endeavors, it would seem to me, would lead to larger returns to the growers.

We Must Cover the Whole Year.

There is another thought, however, which has been brought forcibly to my mind the past year or two in my travels over the State. It is this, that with our great diversity of climate and soils, is it not possible that in the geographical distribution of the orange and lemon, we might find that certain varieties will come into market at just such periods of the year when the planted areas, as we one or more points.

The experiments that have be carried on of late in the Imperial v ley have impressed me with thought, namely, that there are s undeveloped citrus areas which produce a fruit which will be exc by none, at the same time com into marketable condition at s times as not to conflict with areas already in cultivation. Fi years ago, we were told that the ange culture had reached its mum, when low and behold, the lare citrus belt was exploited, c for thousands of trees and the Inv ment of large capital in its dev ment, all of which has given h some returns; while the Tulare are not by any means develope their possibilities, we learn that Imperial valley possesses all of conditions of soil and climate c lated to produce citrus fruits in chantable quantities.

Watch Us Grow.

The present crop of citrus fruit the State has been variously esti ed from twenty-five thousand twenty-seven thousand carloads believe this to be but a mere frac of what we shall eventually gro these fruits. So much for an op istical survey of the field, let us view the subject at closer range.

Basic Principles.

This, it would seem to me, is ly the place to go into a minute cription of the various proces sential to the building up of a

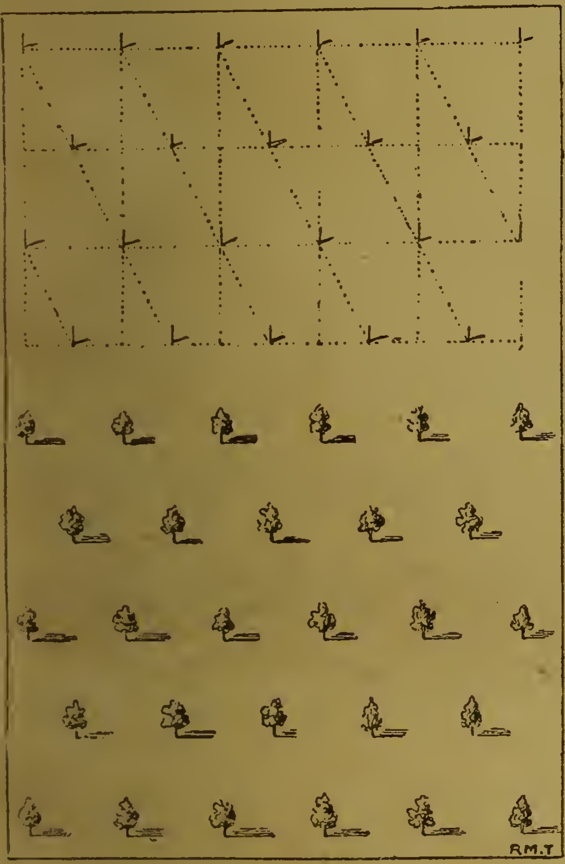
sful orchard. A few basic princi-
s, however, should not be over-
ked. It goes without saying that
citrus fruits are partial to a soil
med from disintegrated granite.
e subsoil should be fine, but still
ow water to pass through it freely.
rsely stated, it should be of a rich
mbination, with water not less than
enty-five to thirty feet from the
rface—this for trees budded to a
eet root. Trees planted on heavy
lley lands should be budded to sour
ck (Citrus Bigaradia,) or in ex-
ptional cases where the water is
se to the surface the root of Cit-
s Trifoliata can be recommended.
e surface should be of a sandy nat-
e, so as not to bake or crust after
ins or immediately following irri-
tion. A coarse, sandy surface or
en a gravely surface is not necessarily objectionable, provided that
e subsoil is right.

An altitude of from eight hundred to
xteen hundred feet along the Coast
nge is probably best, though it
ust be admitted that with the ex-
riments in the Imperial valley at a
uch lower altitude would seem to
ve at least modified, if not ex-
oded that idea.

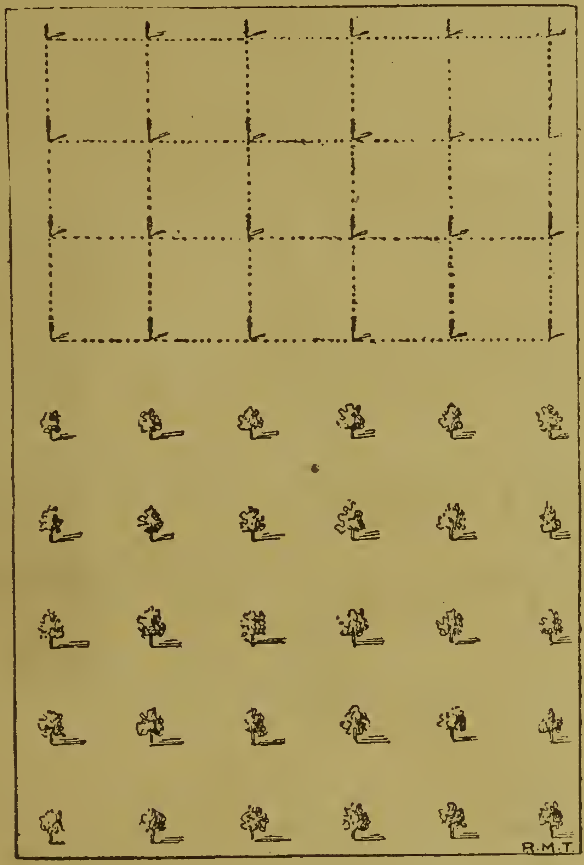
Having selected your land, ob-
ined your climate, there is still one
her essential you must not over-
ok, and that is, an abundant supply
water for irrigating. Indeed, so
perienced an authority of land and
ater in California as Theodore S.
n Dyke has laid down the axiom
find your water and then to look
r the dirt to put it on.

e Planting.

These physical conditions having
en secured, your next step will be
e preparation of the land. Need-
ss to add, it should be thoroughly
owed, cross plowed and harrowed
til every particle shall be well
mmunited and friable as an ash
ap. Of course, this being accom-
lshed and you have secured A-1
ees for planting, you will next lay
your land in straight rows by the
uare, quincunx and hexagonal
ethods, as best suits the shape and
ntour of the land to be planted.



THE TRIANGULAR SYSTEM.



TREES PLANTED ON THE SQUARE SYSTEM.

The orange, like many other evergreen trees, is keenly sensitive to the exposure of its roots; however, in handling young trees, care should be exercised to have holes already dug for their reception (it should be of sufficient size to allow the spreading of the rootlets in their natural position. The trees should be well puddled.

Take the tree, place it upright, fill in the top soil, being careful to tamp down the earth all around each of the roots, adding water at regular intervals until the entire hole shall be filled to the surface, then press down the soil rather closely, water again copiously and go to the next tree. The larger the force in carrying cn this work the better. The young trees, all planted in orchard form, the new beginner will, of course, be anxious that the same shall grow strong and (be anxious) that the trees shall begin to bear fruit at as early a date as possible. Needless to add that this condition can be greatly accelerated by intelligent care and application. No tree is more responsive to good treatment than the orange or the lemon. Careful cultivation, regular irrigation and careful watching are the factors that enter into the development of the profitable citrus grove.

Cost.

The attendant expenses vary in a general way for the preparation of the land, from fifteen to twenty-five dollars per acre. This includes cultivation for the first year. After that, however, the cost of culture will be quite apt to increase, varying according to the amount of labor expended.

If the trees have been well cared for, have been kept free from injurious insects, are exempt from disease, the orchard should pay expenses the third year from planting, by the fourth it should produce about a box of fruit to the acre, the fifth one and one half boxes to the tree, and from that time on, increase in productiveness and profit to its owner in the corresponding ratio to the amount of labor and intelligent care expended on it.

Amount of Water.

The volume of irrigating water is also very elastic, depending upon the charcater of the soil and the lay of the land. Usually the amount is about one inch to ten inches for the first two seasons, one and one-half for the two following seasons, two inches for the fifth and sixth years, after which period one inch to every four acres will be about correct. The expense of caring for an orchard is also a matter of condition and environment, if all the labor shall be hired it will obviously run up the expense, so that it is almost impossible

Continued on Page 211.

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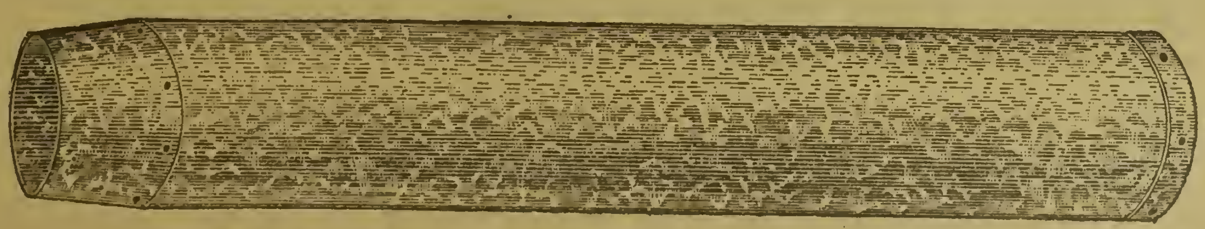

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Coachella valley recently forwarded its first car of cabbages for this season.

The Vegetable Garden

HOW WE GROW STRAWBERRIES.

TO MANY queries come to us for information about strawberry growing, that I have thought a brief article on the subject would interest a great many readers of the Cultivator.

It is natural that I believe our methods the best. When some one can show better results than we get, I shall be interested in learning how it has been accomplished. In twenty years' exeprience in Southern California I have learned some things about the strawberry that cost a whole lot of money and hard work.

Growing to Plant.

One of the most important things learned was that it never pays to set out plants that have been propagated from a bed that has borne fruit. We make the growing of our plants an operation entirely separate from growing fruit. Our plant beds are not allowed to bear fruit, nor are our fruiting beds allowed to grow runners. January 1st to April 1st is the best season to plant.

The Land.

We are careful to grade our land perfectlly as a beginning, then cover the entire surface with stable manure as heavily as our purse will allow, up to one hundred tons per acre. It does not matter if the manure is fresh from the stable or corral, but it must not be too coarse or full of straw. The abundant use of water prevents disastrous results from using fresh manure. Plow this in eight or nine inches deep—then sow sulphate of potash at the rate of 500 pounds per acre, and harrow two or three times or until the ground is as fine as it is possible to make it. Then go over it with a planker so as to get it smooth and in shape for marking out.

Planting.

We stretch a wire as a guide for the first row with the marker, which has four teeth 20 inches apart. As, after the first time going through, one row is used as a guide. We make three rows at a time.

The plants are set about a foot apart in the rows. This method requires 26,000 plants per acre. After the plants are set out we give the most thorough cultivation with wheel hoes—allowing no weeds to grow. Necessarily there will be some hand hoeing between the plants. We avoid irrigation as long as possible in the early part of the season, but are careful never to allow the plants to suffer for water. So much depends on the soil and the weather, so that no set rule can be given as to how often. Land and water and manure are too costly in California to practice the methods in vogue east of the Rocky Mountains, of planting wide distances (such as three feet) apart, and we have found difficulty in picking if the rows are closer than 20 inches. When it becomes necessary to irrigate, we attach a broad shovel to a wheel hoe that will make a wide furrow and not too deep. As this attachment does not come with any of the wheel hoes, we had our blacksmith make it. A furrow two to three inches deep by about eight inches wide is to be preferred to one deeper and narrower.

Two hundred feet is about the limit of the length of the rows. Something will depend on the grade. If the rows are too long, the portio next to the flume will get too muc water and the extreme end too littl After we begin to irrigate, which about the time the plants begin bear, we do very little cultivation, ex cept to keep out all weeds, which done with a common blade hoe file very sharp. From this time until th plants cease to fruit, close attentio must be given to the matter of irriga tion. On our land we usually have irrigate once a week—sometim twice.

Varieties.

We have given a fair trial to abo 35 varieties and have found th Brandywine the only variety that profitable on our soil and in our l cation. In locations having le frost, there are varieties that gi fair returns, and the only way is f each one to make tests of the diffe ent varieties and thus learn which best.

No variety seems to be so uniforr ly successful as the Brandywine, a no one in Southern California seen to bear so continuously. We se our first berries to market last seas on March 30th, and we picked eve day until the 25th of October. Th early part of the past winter w very dry and warm and there were good many berries up to the prese time. But the flavor was poor a the market glutted, so that after D cember 1st we ceased sending the to market.

In conclusion, I would emphasi the fact that it is better to lim your area of ground to the poi where you can do every portion the work at the proper time and the best manner, rather than spread over a wide space hoping save labor by using a horse cultiv tor. The irrigation problem is costly one. A man can go over acre per day with a wheel hoe.—Q. L.

A FEW THINKS.

"A Few Thinks on a Subject Wort of Serious Thought," is the title of little pamphlet issued by the Barb Asphalt Roofing Co., of Philadelph It touches on the matter of roofi and is chuck full of interesting stu

If any reader of the Cultivator w may be interested in roofing will wr for it will not have to wait long till will soon have "A Few Thinks" a co ing.

EVERYTHING FOR THE GARDE

One of the prettiest and most co plete seed and plant catalogues have seen is from that old establish house of Peter Henderson, New Yo It has an exceedingly attractive cov and contains a fund of informati which makes it valuable to the g dener's library.

Irrigationists at Turlock are h ing for great extension of their i gation interests, which they hope w be financed by H. E. Huntington Los Angeles.

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The Ornamental Garden

AMARYLLIS.

Amaryllis is a genus of deciduous lbous plants found native in South frica, consisting of a single species, . belladonna, of which there are sev-al varieties. The genus at one time cluded plants now known under the ames of Vallota, Sprekelia, Zephy-nthes and Hippeastrum, the last entioned being still included in maryllis in many garden and trade llections. Amaryllis belladonna—e Belladonna lily and its varieties—roduces its blooms without foliage uring summer and autumn, the aves develpoing after the flowers ie. The growth of foliage continues roughout the winter and spring, the liage dying and the bulbs resting uring the greater part of summer. ippeastrums are natives of Brazil nd other parts of tropical South merica, and the islands adjacent, nd vary greatly from Amaryllis in e production of their flowers, and e flowers also, which develop with e foliage during the spring and ummer, the bulb resting during win-er. Hippeastrums have been greatly nproved by horticulturists, various pecies being hybridized with success. he hybrids are far superior to the riginal types in size of flowers, ange of color and form. Sprekelia is also a native of tropical South America. The only species cultivated in our gardens is S. formosissima which bears singular but beautiful flowers of a bright crimson color. Vallota purpurea, a native of South Africa, flowers during autumn, and is one of the most beautiful of bulbous plants, the blooms being large, cup-shaped, and of a brilliant scarlet shade of color. Zephyranthes are small, bulbous plants producing white and pink flowers. The whole of these are hardy plants in the greater part of this State, and may be grown successfully in most of our gardens.

Culture.

Amaryllis belladonna is probably the hardiest bulbous plant cultivated in Victoria. It requires an open position and good drainage, and under such conditions it will thrive in most soils with a minimum of attention. It is a splendid subject for large dry borders, producing its delicate pink flowers, which are borne in umbels on long, stiff stems, freely for several years without special assistance. Bulbs should be planted during summer at a depth of about six inches below the surface in unmanured soil. They are most effective when planted in patches containing many bulbs, which should not be disturbed for several years except for the purpose of increase which is effected by offsets from the large bulbs. The bulbs should be planted sufficiently apart to provide for increase, about six inches being enough. There are several fine forms of the belladonna lily including A. blanda and Baptisti, white; magnifica, major, rubra, multiflora and purpuprea, of various shades of rose and purple. These are scarce, and fairly expensive, and usually receive much more care and attention than the ordinary type, though requiring practically the same treatment.

Hippeastrums are magnificent plants for the borders, requiring a sunny position and well drained soil of rather light texture. Unless the soil is very poor no manure is needed, and even in poor sandy soils an admixture of clay or strong loam is preferable. If manure is added to the soil it should be thoroughly decayed cow manure, and should not come into contact with the bulbs. Planting should take place during late autumn or winter, the proper depth to plant being that occupied by the bulbs before removal, viz.:—The crown or neck of the bulb showing at the level of the surface. Hippeastrums require fairly moist conditions during the season of active growth, and as little water as possible when at rest. They are admirable subjects for pot culture, some fine specimens being occasionally seen at horticultural meetings. An evergreen species H. reticulatum bears foliage striped with white in the center, and flowers of shades of pink. Several fine hybrids have been raised between this and other species, retaining most of the characteristics of reticulatum. In most of the local nursery and seed catalogues hippeastrums are referred to as Amaryllis hybrids, some of the finest varieties being comparatively rare and expensive.

Vallota purpurea requires almost identical treatment with hippeastrums, and is specially suited for pot culture. Several bulbs should be grown in a fairly large pot in well drained loamy soil. They should remain undisturbed until the pot becomes too small owing to the increase of bulbs. Over-potting and disturbance are the most general causes of their failure to bloom. The soil should never be allowed to become dry. Bulbs of vallota are plentiful and fairly cheap.

Zephyranthes require a moister situation than the hippeastrums, otherwise the culture is practically identical. Z. carinata is one of the best kinds.—Journal of Agriculture of Victoria.

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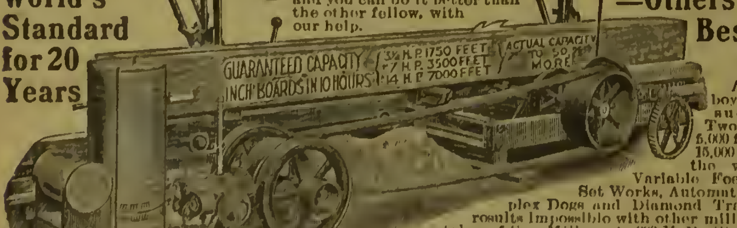

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Bees and Their Care

OF INTEREST TO BEEMEN.

Among the many industries that are making use of the resources of the national forests is that of beekeeping, says a late Washington dispatch. In the Santa Barbara forest of Southern California there are 40 apiaries under government permit. One permittee in this forest has averaged nearly 40 tons or honey in the last three years. Outside the boundaries of the forest beekeepers have to pay for an apiary site five or six times the charge made by the forest service.

Right here we want to call attention to the benefits accruing to beemen by reason of having the government own and control these forests. Note the fact that they must pay five and six times the charge made by the government for a site outside the forest boundaries. Government ownership and control of other natural resources, and of public utilities, would be just as economical for the people. Ponder on that, and see if you can't use your vote to bring it about.

Since bees do not in any way injure the forest, this idustry is welcomed by the forest service, which seeks at all times to secure largest utilization of national forest rerources. The interests of the service and the apiarists are peculiarly identical, because whatever would damage the forest would detract also from its honey producing capacity. The beekeeper, therefore, is alert to detect and extinguish fires and to report to the forest officers the appearance of any other element of danger to the welfare of the forest.

Inquiry regarding the suitability of a forest for bees or application for an apiary site should be addressed to the supervisor of the forest in which a location is desired.—Escondido Times.

NOTES ON BEEKEEPING.

Persons of irregular habits, afraid of too much work, careless or unkind, would better not undertake the bee business, or handling live things of any kind.

Let no man undertake beekeeping thinking that it is an easy task. Beekeeping is like growing a crop. It takes care and labor to make it succeed.

There are still some who argue that the most money for them is in old ideas, old methods and common bees. They regard the new as too expensive. The best beekeepers and those who make the most money use up-to-date methods.

Those who are in the bee business because there is money in it are not as apt to succeed as those who are in also because they are fond of bees and their care. It takes a fondness for a business to obtain its best success.

Since the coming of alfalfa, any section of the country where it is grown to good advantage, is well adapted to beekeeping. Beekeepers say that each colony ought to average from $3.00 to $5.00 worth of honey every year besides the swarms which come off.

Some localities are very much better for honey than others. Southern California and Southern Texas are among the best countries in the world. Intelligence, industry and a good location are necessary to the best results.

Bees and insects are exceeding interesting and useful in carryi pollen from flower to another of t same species. The busy insects see made for each other. They are aft food to eat and nectar for wint food. While hunting these, a lar number of flowers are visited and t fertilizing pollen distributed.

California has the name of be one of the greatest bee countries the world. It is a land of fruits a flowers, giving bees, blossoms a shade. In 1857 the bee industry w commenced there. Honey sold at and $2 per pound and bees as high $100 a swarm. Now there is a go business carried on there, wi honey at six cents a pound and be at $3 a swarm.—W. F. Morgan, Inland Farmer.

DESTROY THE DODDER.

Dodder, a rootless parasite, cal "love and tangle," is damaging so alfalfa and clover fields. It wra itself around a plant as tightly could be done with flax tow, smot ers it and leaves it a dead and bla mass, making a desert in an oas We have not learned the prescrib method of fighting such an en but tearing it loose and to p with a rake certainly kills it. T dodder has a center and works in circle. It accounts for the bare spo in grass fields. It will probably k any kind of a plant. A leaflet issu in Great Britain says:

The question to what extent t various species of dodder are har ful to agricultural crops is o which is of considerable interest the farming community, and f some years past the agricultur press has contained many referenc to the prevalence of the pest in v rious districts.

Moreover, in 1905, as much as per cent of the clover seed sam examined by the botanist to Royal Agricultural Society w condemned owing to the presence dodder seeds, while two samples red clover contained no less than s per cent. Some information, the fore, on the several species of d der, the methods by which they a spread, and the best means by whi they may be suppressed or avoide may at the present time be of va to agriculturists and seed mercha alike.

Various suggestions are made f prevention and remedy. Am these it is pointed out that wh dodder is found infesting a cro however small the patch, s should be taken at once to dest it. This may best be done by d ging up the infested plants a burning the whole, in situ, by c ering the area six to nine inch thick with long chaff, spinkling with a paraffin, and then firing i

Tearing out the dodder with rake is to be condemned, as this e serves to spread the evil. Inf clover or lucerne should not be to stock, as the seeds pass thro the alimentary canal unaffected. Frank mentions a case in which field was actually infected by m of manure from young cattle. cases where the infestation is ve extensive, covering the larger part the crop, it is perhaps better plough the whole under before see are formed. Attention was called 1904 to the value of calcium sulph as a means of combating dodder an other parasites, and experimen show that this substance is ve clearly superior to sulphate of ir It should be applied in the form a powder when the dew is on t leaf. Above all, good cultivation the widest sense should prevail, an all fields, hedges and ditches shou be kept clean and free from weed Coleman's Rural

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

tock for Oranges.

Is the trifoliata orange root or tock a success? Does it stand more rost than other roots? Are navel nd other oranges on trifoliata roots s good, sweet, prolific, etc., as other tocks? What are the relative merits f the Florida sour and the California r Tahiti sweet roots?—F. E. B., akeview.

As a rule, planters seem to prefer ther roots than the trifoliata, though here are many thousands, of course, lanted on that root. Some men are ery partial to the trifoliata, maintaining that it is more frost resistant, ut this is denied by many who have bserved it in orchards along side of rees budded on sweet roots. We hink the general opinion is that here is no difference in the quality f the fruit grown on the two roots. The relative merits of the California weet and the Florida sour will depend largely on soil conditions. In a light, warm soil, the sweet root is argely preferred, but on the heavier, noist lands foot-rot or gum disease s so bad that the sour root is usually preferred.

Black Knot.

Is there any cure for black knot on rees?—N. P. M., Gilroy.

The best cure is to prevent its spread by cutting off such excrescences and burning. Use tools that are disinfected in a strong solution of corrosive sublimate. We suppose that you refer to knots on the branches.

Eucalyptus at Imperial.

A non-resident land owner in Imperial valley will appreciate an expert opinion upon the cost of planting eucalyptus per acre and the care necessary, with the number of years to wait for returns.—J. O. C., Hollywood.

Eucalyptus trees should be planted in six-foot squares in the Imperial valley where the water is cheap and easy to apply and with such rich soil. The cost of the trees will depend upon the market. Perhaps $1.50 to $2.00 per 100. Cultivation would cost about $2.00 an acre for the first two years and after that the only expense will be water and its application.

Five years would give you timber that would give about 3000 posts and an indefinite amount of stovewood per acre. These figures are based on the Red Gum, Eucalyptus Rostrata, as we know it there.—J. W. M.

Sick Orange Trees.

I have a number of large "Mediterranean Sweet" orange trees which do not bear well. They set a large crop last year, but nearly all dropped in June. The trees are a little yellow, but made a good growth this year. Would "Pure Blood" make a good fertilizer for them? A neighbor told me that they were "bark bound" and advised me to split the bark on the stock; he told of a number of cases of trees treated that way which bore well afterward. Having never heard of this method, I should like to have your opinion on the matter.—A. G. D., Redlands.

Dried blood is a good fertilizer for trees that are not in good color, but we would prefer to give them a good dressing of complete fertilizer with an addition of about two pounds of blood per tree. About the first of March or even now, if you have already fertilized with complette fertilizer, a pound of nitrate of soda per tree will help. If you are soon to apply fertilizer, we would advise putting on one which has some nitrate of soda in it.

Slitting the bark of your trees will not injure them, and in many cases will benefit them, especially if the bark becomes hard and tight.—J. W. M.

Vines and Olives.

I am going to put out 29 acres to Malaga vines and wish to use a border; would the Mission or Manzanillo olive pay as well as figs? Which of these varieties would be best? Will olives grow in alkali land as well as figs would?—M. R. P., Kerman.

If you desire ease in handling fruit, you had better plant figs, and as they have proven as profitable as olives, we prefer them.

Olives prefer a well drained soil, as do figs. We would prefer figs in your case.

Loquats and Persimmons.

Why are loquats so often barren? Upon what root stock are persimmons usually grafted and what is the best all around variety of Japanese persimmon? Is there any scheme to make large, thrifty Royal Anne cherry trees bear? Would mixing them with other varieties bring them into bearing?—J. Q. D., Corralitos.

Loquats are often barren because they are usualy grown from seeds. If you want to grow loquat trees that you can count on bearing, you must graft some well known bearing variety onto your loquat or on a quince.

Persimmons are usualy grafted on their own root; that is, Japanese varieties are grafted on Japanese seedlings. The wild persimmon that is a native of the Eastern States is a rapid grower, but sends up numerous suckers that are a nuisance.

We doubt if you can make Royal Anne cherry trees bear fruit in your section. That variety of cherry will not bear unless the climatic and soil conditions are just right. There are but a few places where that variety does well.—J. W. M.

Oranges from Seed.

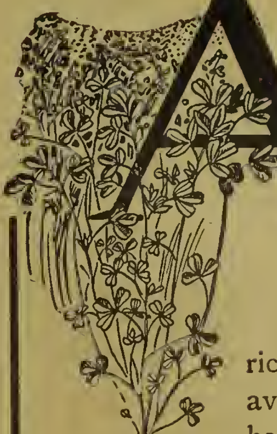
Would like some information on growing oranges from seed. Would like to know which grows the best plants, sour oranges or sweet. Would also like to know what kind of a seed bed is necessary to plant seed in.—Subscriber, Brawley.

Crush the fruit and work the pulp free from the seed through a coarse screen. Sweet seedlings, pomelo, trifoliata or sour seed may be used. Mr. Mills will discuss merits of the various stocks later. If on heavy or damp soil, the sour seedlings are best. In your section, we imagine the ordinary sweet seedlings would be satisfactory.

Regarding planting the seed, we quote from Teagues' Citrus Fruits:

"The best season in the year for planting orange seed is in the early spring months, much depending on the season; preferably from March to May. If the soil is cold the seed is apt to decay in the ground before germinating.

In preparing the seed bed for the seed, the ground should be well plowed or forked up to depth of at



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least twelve inches, leaving the soil as loose as possible. After preparing the land in this manner, it is necessary to erect a lath house of sufficient size to cover the ground to be used for a bed, or to cover same over with burlap or light cloth of some kind. In erecting the lath house, it is best to use common plaster laths, nailing them on 1x3 battons with space left between each lath the width of the lath. In this manner the ground is half shaded, which is sufficient for the protection of the plants after they begin to grow. If it is undesirable to go to the expense of a lath house, the bed can be successfully covered at much less expense by putting up stakes at intervals and stretching wires on them. On these wires should be strung strips of burlap or light cloth. This protects the young plants from the sun.

"There are two methods of sowing the seed, the first being by broadcasting. After the seed is scattered, it should be covered to a depth of about one inch with sand which has been thoroughly screened before using. It is also a good plan to first cover the seed with about its own thickness of fine soil before applying the sand. This will insure the seed being moist at all times and will greatlly help in the germinating process. In the following the above method of planting it is necessary to sow the seed in beds, leaving small walks of sufficient width so a man can go through to spray properly when necessary with a garden hose, and without damage to the plants. The second method of sowing the seed is in drills of from eight to twelve inches wide, leaving about a six to eight inch space between each drill for the running of water in irrigating. Seed sown in this manner will grow stockier plants, as a rule, than by the broad-cast method in beds. However, it takes up more room for a bed of an equal number of plants than by the broad-cast method. After the seed is planted it is necessary to keep it sufficiently watered for the germinating and starting of plants, but not an excessive amount of water. If too much water is used, it is apt to decay the seed in the ground.

"If the bed has been properly cared for and the season favorable, the plants should be ready for removing to the nursery the following season, or one year from the time the seed is planted, though if desirable they can be carried two years in the bed before being removed and with good success. Where the removing of the plants from seed bed to nursery can be delayed, it is best to leave them two years, as the stocks vary in size. If desirable, the larger plants can be removed from the bed the first year from the seed, and the small ones left in the bed another season. As the remainder will then be thinned to some extent, the plants remaining in the bed will do much better and make good, stocky plants at the end of the second year."

Graft Winter Nellis.

I have a winter Nellis pear on the back part of a city lot that blooms, but does not bear fruit. I wish to know variety to get to plant near it so it will fertilize and bear fruit. There is a Bartlett about one hundred feet away, but blooms later. Please name two or three varieties.—H. S.

We would advise you to graft your winter Nellis to some other variety, as it is a very shy bearer in the interior valleys. We had it growing and blooming with about twenty varieties in a close proximity at Pomona and never got a crop. There was an apiary just over the fence so that there was no lack of pollination. We would advise you to graft your tree to Patrick Barry. This is a very fine winter pear.

Frost Prevention.

Can almond growers use smudges to prevent a killing frost, also is there any known remedy to eradicate linnets which are so destructive to almond buds? J. A. C., Modesto.

You will accomplish but little with the smudge, but possibly may by the use of baskets or pots which are used to make a good hot fire. It will require about 15 to 25 to the acre and if the whole neighborhood unites may be fairly successful.

Regarding the linnets it is a hard proposition although they have been destroyed by the thousands by using poisoned water or phosphorous on wheat or other poisoned wheat. A small boy with a gun in the orchard will do some good, but that method is usually too expensive. The worst feature of the poison is that mockers and many other innocent birds are destroyed with the linnets. Pieces of bright tin hung in trees so as to flutter in the wind are claimed to be of some value.

Figs and Vines.

What kind of grapes and figs are most profitable to plant in Turlock district, also olives. Would also appreciate information on keeping of sweet potatoes?

See Mr. Mills answers to similar queries in a recent issue of the Cultivator and his article in this week's issue.

As to olives we imagine figs would be better in your section, but believe that if olives are planted that the Mission or the larger varieties to be the best there is grown.

As to keeping of sweet potatoes we will ask Mr. Lobingier to answer that later.

Nitrate of Soda.

In your last issue you refer to Nitrate of Soda which I have tried to secure here, but am unable to do so though the dealers tell me that potash is just as good. Where can I secure it? M. L. M., San Diego.

Two advertisers in the Cultivator are surely able to supply you if local dealers do not. They are the Balfour Guthrie Company of Los Angeles and R. A. Holcombe, 50 Clay street, San Francisco. The dealer who would tell you that potash would in any way take the place of nitrate of soda, is certainly a peculiar dealer. They are in no way alike, though, of course, both are fertilizers. The potash might greatly benefit your crops, but if you wish nitrate of soda, potash does not fill the place in any sense. The complete fertilizer, of course, contains nitrogen, though not to the extent which the nitrate of soda does.

Insect on Vines.

A subscriber recently wrote regarding a small brown insect infesting vineyards in Sonoma county. The letter was forwarded to the State University, which is answered by H. J. Quayle in the following letter, but as the original letter is not returned, we do not have the writer's name:

In the absence of Prof. Woodworth, I am replying to your letter of the 4th in reference to a pest attacking the buds of grapevines in the Sonoma Valley. Last year Prof. Bioletti of this station reported such an insect as doing considerable damage in some parts of this valley, but he was totally unfamiliar with the insect, and, so far as our experience goes, we are not sure as to just what it may be. Judging from the description, it would seem to be some sort of a fly, but we have no record of such an insect attacking the grape in this State. The only other thing which it might be is the flea beetle, and most growers are familiar with these insects.

Last year I made some study of grape pests in the San Joaquin Valley, which is summed up in bulletin No. 192, but I did not come across such a pest in that part of the State.

I am especially anxious to investigate this trouble, however, and shall endeavor to get up into the Sonoma Valley and finding out exactly what it is. There is nothing which I can suggest that might be a satisfactory control measure.

Sulphur and Lime on Roses.

Kindly advise me as to whether it will be safe to put sulphur, lime and salt on rose bushes to remove scale and moss. M. K.

It is perfectly safe to use the s. l. and s. wash on the roses, provided they are perfectly dormant, but it would be safer to use on the trunks which are affected a caustic soda or potash solution, say about one pound of either to six gallons of water. Of course, this should not be put on young, tender growth.

Tallow Tree.

Kindly inform me if the tallow tree (Sapium sebiferum) is cultivated in California, or can be introduced. It occurs to the writer that this tree possesses properties which would make it an exceedingly profitable addition to our flora.—M. W. I., The Palms.

We are informed that the tree has been introduced into California and is a very handsome tree, though of not enough importance to encourage extensive planting.

Bichloride for Seed Potatoes.

Please inform me how much bichloride of mercury to the gallon of water for dipping potatoes is best for preventing scab. J. B. S., Encinitas.

The bichloride of mercury is probably the best preventive of scab and it is used successfully to treat potato tubers for rot and blight as well. Immerse tubers from 1½ to 2 hours in solution of one ounce corrosive sublimate, to 6 gallons of water, then plant in disease free soil.

Muscovys.

Please give me your opinion of the Muscovy duck. Is the Muscovy the same as the Mallard duck? Several poultrymen say there is no market for the Muscovy duck. What do you think of getting a start of the Muscovy ducks? I have a few, but if they are not profitable, I do not care to go into the business further.—Mrs. D. W. P.

See leading article this issue for answer.

Will you please give us some information about hatching duck eggs in an incubator (hot water) and oblige. —F. H.

See answer in Mr. Ironmonger's article this issue.

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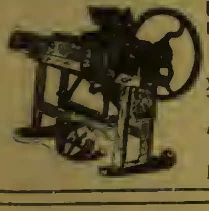

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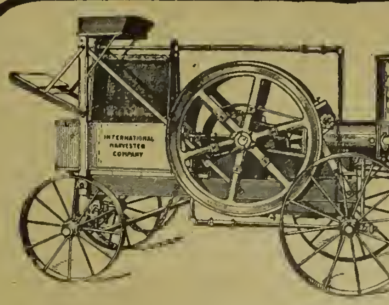

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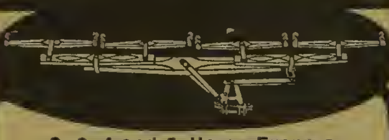

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General Agriculture

FENCE POSTS MADE DURABLE.

Fence posts of many kinds of cheap woods which ordinarily would soon decay if set in the ground can be made to last for twenty years by a simple treatment with creosote. Most of the so-called "inferior" woods are well adapted to the treatment, and this is especially true of cottonwood, aspen, willow, sycamore, low-grade pines and some of the gums. When properly treated, these woods outlast untreated cedar and oak, which are becoming too scarce and too much in demand for other uses to allow of their meeting the demand for fence posts.

Impregnation with creosote has been greatly cheapened by the introduction of the "open tank," which can be installed at a cost of from $30 to $45, or much less if an old boiler is used. A tank with a bottom 12 square feet in area will suffice for treating 40 or 50 6-inch posts a day, or double this number when two runs per day can be made. The absorption of creosote per post is about as follows: Eucalyptus, one-tenth gallon; willow, two-tenths gallon; sassafras, ash, hickory, red oak, water oak, elm and maple, four-tenths gallon; Douglas fir, quaking aspen and black walnut, six-tenths gallon; sycamore, cottonwood and lodgepole pine, seven-tenths gallon. The price of creosote is about 10 cents per gallon in the East and Middle West, 16 cents per gallon on the Pacific coast, and 27 cents per gallon in the Rocky Mountain States. The cost of treating a post will, therefore, vary from 4 to 15 cents. Properly treated, it should give service for at least twenty years.

Experiments of the Forest Service show that with preservative treatment the durability of lodgepole pine in Idaho is increased sixteen years. The cost of cresote is there relatively high, yet by treating posts there is a saving, with interest at 6 per cent, of 2 cents per post yearly. More important than the saving, however, is the fact that through preservative treatment other woods are fitted to take the place of cedar, of which the supplly is rapidly becoming exhausted. A detailed description of experiments in preserving fence posts, together with practical suggestions for treating them on a commercial scale, are contained in Circular 117 of the Forest Service. This publication can be obtained upon application to the Forester at Washington.

THE VALUE OF FARM SCALES.

I want my fellow readers to know my opinion of the value of wagon and stock scales for the average farmer. I have been using scales for two years on my farm. Since I bought them I have been able to know just what I am doing, writes Marco F. Payne in the Northwestern Agriculturist.

I am located five miles from market. When I have anything to sell it is first weighed at home, then, if it is necessary to be weighed in town, I know about what it will weigh at market by allowing for shrinkage. I know that I have lost enough on stock and grain, before owning the scales, to pay for several pairs of scales. We don't have to guess the weight of stock with our stock buyers. We farmers who do not see very much stock weighed can't guess with the buyer who is weighing every day.

In husking corn we pay by the bushel. We used to guess at the amount, but now we weigh every load, and the men have no chance to haul in a full load when I am there to see it, and then when I am away, slip in with small load.

When getting my winter's supply of coal, the owner of the coal bank (who has no scales) tells me to do my own weighing at home.

It is the same at threshing time. We weigh our grain instead of trusting to the weigher of the threshing machine.

I think that a pair of scales will pay a larger per cent on the money invested than on any other piece of machinery on the farm.

DIVERSIFIED FARMING.

The Imperial Standard, in speaking of the possibilities of that section recently, said:

It is doubtful if the farmers of any country ever had such confusion growing out of successes as is presented in this valley.

At Brawley the farmers think the farmers of the remainder of the valley are slow going because they do not engage in cantaloupe picking.

Those who have gone into the grape business wonder why it is that all the farmers of the valley are not planting vineyards.

Dairymen, into whose hands the coin of the realm is falling regularly each month in a way to bring smiles to their faces, are coming to look with a little contempt on others who can do nothing better than grow cantaloupes or grapes or raise live stock.

"It's just like finding money," says the man who raises hogs.

"It's easier than being a remittance man and getting money from home," says the man who is raising cattle.

"Values never piled up so fast as they do in raising horses," says the man who is engaged in that business.

"Sheep the best yet," says the sheep owner.

UTOPIA VS. CHINA.

The lesson taught by China should be learned and never forgotten. In these days of evolution philosophy we are prone to assume that time only, coupled with industry, will bear us, as a nation, forward irresistly toward a state closely approximating the ideal. We habitually look at the past through the large end of the telescope and at the future through the small end. We do not reflect that a crescendo movement may be followed by a diminuendo.

But look at China. Unquestionably she has been great and powerful; otherwise, she could not, as an undivided nation, have survived to her present prodigious age. Yet few would argue that her progress has brought her to approximate national perfection, and the hope that she may even yet approach such a state is dampened by inquiry into the facts of her economic life.

In Northern China, especially the mountains, from base to summit, have been swept as bare of forests as are our city pavements. In consequence, they have been gashed and gullied by fierce torrents. Floods have devastated the valleys. Wood

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A high or low death rate is usually the difference between successful and unsuccessful poultry raising.
REX Flintkote ROOFING is used for roofs and sidings on profitable poultry plants, because it keeps the houses warm and dry, with even temperature and humidity.
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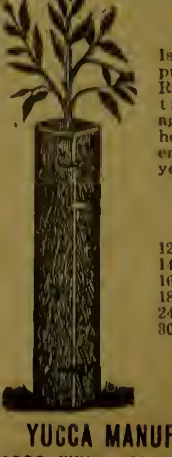

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as become so rare as to be confined rgely to the making of coffins, for hich purpose it is borne on human acks down rugged slopes and de- ies in journeys of sometimes ten ays or two weeks. Fagots for fuel re a luxury of the rich. Grass, dug p by the roots from remote moun- ins, and stubble raked clean from arvested fields, constitute the chief rms of fuel. Farming is done on ountain sides on which soil brought y flood waters or human hands, is eld in terraces by stone walls, labor- usly constructed. Rivers go dry in mmer. Areas of their empty beds e then fenced in. Soil is caught in ese when the river is full again d, on the recession of the water, is led.

Little wonder that such a land is e prey of famine, that the traveler sses through successive villages solutely destitute of human inhabi- nts; and that, even in the more vored regions, the parent upon e birth of a female child frequent- debates whether to drown it out- ght or leave it to be carried away the next famine.

Let those who have hugged to emselves the delusion that time one, combined with industrial, activ- on present lines, will inevitably nvert our land into an earthly radise; and that such earnest rnings as those, for example, of e President in his message, are t the wailings of Cassandra. look China—and think.—Forestry and igation.

URE WATER ON THE FARM.

Absolutely pure water is not to be nd in nature. The amount and e nature of the impurities vary dely, depending upon the source of pply and other conditions. Nor e all of these impurities harmful a water intended for domestic use nd very few of them may be,) but ing to the fact that water may be agent for spreading certain dis- ses, it is essential that care be en to get a supply that is free m harmful constituents.

mpurities may either be dissolved the water or carried in supension it; and they may be of animal, getable, or mineral origin. Hard- ss in water is due to the presence compounds of lime or magnesia. n may be present in quantities ge enough to make a water unfit laundry purposes.

Th greatest danger to which a me[illegible] supply is subject, however, th possibility of contamination decaying animal matter and stes. Typhoid fever and other eases result from such contami- ion. It is, therefore, important t any source of supply should be rded. In those cases where the ter comes down as rain and is ght upon roofs, to be carried to a tern, the first part of the rainfall uld be wasted, as it is full of t from the roof. Brick filters in terns are not so efficient as they generally supposed to be.

Vhen the water is drawn from a ll and comes up cool, clear and rkling, it is very difficult to con- ce any one that it is possible for thing injurious to be present, but h is sometimes the case. No well spring should be used which is ated within several hundred feet a barnyard and in lower ground. barnyard filth will find its way neath the surface of the ground, l flow for some distance before it omes harmless. What is said of ls is also true of springs. They may appear to come out of the solid rock, but there is a crevice in which they flow and there may be other crevices which will permit the entrance of the death-dealing sewage.

The examination of a sample of water to determine its goodness or its badness for any use is possible only to those who are specially fitted for that work, so reliance must be placed principally in doing away with all visible sources of harm. If analysis are desired, they may be made by the chemists of the Experiment Station of the State Agricultural College, Fort Collins, Colo.—Robert W. Gay, Associate Professor of Civil Engineering, State Agricultural College, Colorado.

HOW TO TAN SKINS WITH THE HAIR ON.

To tan hides with the hair on take a slab six or eight feet long, put two legs in one end, the other end to rest on the ground. Take a piece of an old scythe about two feet long with blunt edge; thus you have beam and beaming knife. As soon as skins are taken off trim off legs and head and scrape off all fat and flesh.

Then take four parts salt, two parts alum, one part saltpeter, one part Glauber salts, pulverize and mix; rub on flesh side of skin, fold together, lay in a cool place four or five days, then apply if necessary, which you can tell if it is all absorbed by the skin. When tanned, spread out in the shade to dry.

When partly dry beam thoroughly and when dry finish with sand paper or pumice stone. Give the hair a good brushing, as it is much better than washing. I have tanned all kinds of furs and skins, everything from a moleskin to a dogskin.

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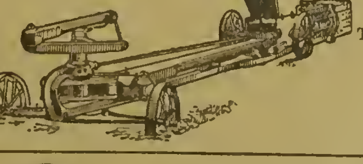

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SETTLERS ANXIOUS.

There is very considerable anxiety manifested by certain holders of lands in the Imperial valley lest their right to the lands on which they have located may be challenged by the government.

This anxiety does not reach those who secured their holding in the regular way, through the general land office, but applies to those only who secured their land by purchase from fraudulent claimants. It has developed, in many cases of illegal filings, that innocent purchasers have titles which overlap those of legal claimants. All such claims are in suspension and will remain so until the government land office has decided upon the validity of their filings.

The trouble seems to come from a system of "get rich quick" operations by which insecure filings were made and afterward sold to innocent purchasers. Now that the time has come to make final proof the settlers cannot do it. There are several thousand in this fix at the present time. After having worked and improved their lands for years they find that by a system of figures used, in maps prepared by private parties, a great many claims lap over into government lands set apart as school lands.

Of course, the government can exercise its prerogative and save the settlers their lands, as they have done, in certain cases heretofore, but whether it will do so or not remains to be seen. In order to make proper and adequate defense against the contests filed, ranchers of the valley are organizing for mutual interests. The proposition is an assessment one, the general fund to be used in defending individual cases.

The defense of one claim costs more than $1000, and this expenditure, forced upon many settlers, would bankrupt them. Therefore, the mutual organization is placing a small assessment upon each member—it will amount to about 5 cents an acre—and this fund will be used for all defense, no matter where the contests may strike.

STUPENDOUS AGRICULTURAL GROWTH.

The United States presents a marvelous development of wealth agriculturally, when its resources are considered, as made in the reports for 1907.

For instance, the beet sugar industry reached the enormous figure of 500,000 tons and it may be considered as really in its infancy. It is, in fact, but about fifteen years since sugar beets were grown extensively as a source of revenue. Considering the rapidity with which the industry has extended it is little short of a wonder that it should reach the figure it has in so short a time.

In 1892 the beet sugar factories turned out 13,460 short tons of refined sugar; in 1897, five years later, 45,246 tons; in 1902, at the end of another five-year period, 218,405 tons; and in 1907 the product reached 500,000 tons.

So profitably has the business grown that the lands on which sugar beets have been successfully raised, have also increased in value adding approximately many thousands of dollars to the wealth of the country.

Another source of vast wealth lies in alfalfa. We have really no idea of capacity of this wealth-producing plant. While it is confined to the West mainly, the South is taking up its culture and the irrigated sections of the Middle West also, and the fact is as certain as anything we may anticipate that alfalfa production will be promoted, from this time forward, with far greater results than have been secured in the past. When we consider that the total crop of alfalfa hay in 1901 is estimated to be worth $100,000,000 we have some idea of the extent of its use as a hay and forage plant. And when we consider its adaptability to every class of stock, horses, hogs, cattle, sheep and poultry, and when we reflect that experiments show it to be a valuable food for man even, what may we not anticipate for this individual crop when viewed in the light of results obtained in 1907. The basis of wealth in animal industry is our forage and hay crops and alfalfa seems to be the one factor which must solve this problem.

In this connection note the advance the country has made along the line of animal industry. The farmer depends not alone on his field crops. He produces meat animals; he keeps diary cows; he raises sheep for mutton and for wool; he raises horses and mules; he keeps poultry. The animals sold from farms and those slaughtered on them in 1907 were worth about $1,270,000,000, ,or nearly twice as much as the cotton crop.

The dairy products of the country alone were worth nearly $800,000,000 in 1907, or much more than any crop save corn. Prices of both butter and milk have advanced.

The poultry and egg products for 1907 should be estimated at more than $600,000,000 in value. In fact, these products were worth more than the wheat crop. In 1899 the farm price of eggs averaged a trifle over 11 cents per dozen; in 1907 it was over 18 cents. Dressed poultry sold in New York in 1899 for 10 3-4 cents a pound; in 1907 for nearly 15 cents. So we note that animal industry has kept a sharp advance along with the basis of our general agricultural wealth, which is the wheat crop.

The wheat crop of 1907 was 625,576,000 bushels, valued at $500,000,000.

The Cultivator reviewed at length the annual report of the Secretary of Agriculture when it appeared in December, and we have no intention of repeating now what we published at the time the report was analysed, except to remind our readers of one fact, viz: that the country is developing at a tremendous rate and that the farm products of the United States last year reached the colossal figure of $7,412,000,000, the greatest in our history, and that during the fiscal year 1907 the exports of farm products exceeded the imports by $444,0000,000 a balance that has been exceeded but four times—in 1898, 1899, 1901 and 1902.

DRY FARMING CONGRESS.

The "dry-farming congress" held in Sal Lake City recently was noted for one thing: It closed with an attendance of 300 delegates more than it opened with, which is something unusual If we may predicate this fact to any one thing, it is the growing interest taken in the subject by States needing the amplification of the system.

The Salt Lake meeting was not specially noted for the promulgation of new ideas, it got down t something like a tangible organization in the se lection of a permanent secretary, whose work shall be to promote interest in future meetings and furnish information, through a bureau, t those desiring knowledge in the science of dr farming.

The congress also asked for a law increasin the acreage in the arid region from 160 to 32 acres; the boring of experimental wells by Stat appropriation and the establishment of a greate number of experimental farms.

NATIONAL IRRIGATION CONGRESS.

The 16th National Irrigational Congress wil be held at Albuquerque Sept 29th—Oct. 3rd. of thi year. Already preparations are making for a gre convention.

As California is intensely interested in a irrigation promotions the progress of the com mittee, having in charge this meeting, will b noted with more than passing interest.

The people of the State of New York have vo to spend $50,000,000 upon the improvement of their highways. The appropriation of this sum large as it is, will probably convey no very de fiite idea to the mind of the reader unless he is f miliar with the widespread agitation which ha been going on throughout the country for the las fifteen years for the improvement of the high ways; but to the men who have led the fight fo better roads it signalizes a revolutionary change o policy which is of profound significance.—Orchar and Farm.

The Florida Agriculturalist, one of the reall strong class papers of the South finds that will have to change from a weekly to a month owing to the increased cost of paper and o materials which enter into the publishing ness. We shall miss the weekly visits of Agriculturalist, but the cold alternative is pres ed of increasing the price of the paper to $2.0 stead of $1.00, or changing to a monthly, and th editor prefers the latter.

Shop Talk

Our next special isssue, which will appe March 12th, will be devoted to **Gardening and** **versified Farming in California.** This edition contain at least 32 pages and we expect to dev almost the entire issue to the interests of dening, diversified and dry farming of this St In this issue will appear articles of interest fr the most progressive gardeners on the Paci Coast. Our specials of this winter, which h been devoted to Live Stock, Poultry, Decid and Citrus Fruits, have been such a success t we feel much encouraged over this coming is and ask you for support along this line. The tivator is in close touch with and has the co dence of its subscribers, and as an adverti medium pays its advertisers better than any paper published on the Pacific Coast.

The Cultivator is taking the lead of all c papers in regard to the policy adopted in getti out special issues at this particular time. Ot papers are retrenching and cutting expen wherever possible but we feel that it is our d to help our subscribers in hard times and, the fore, are using every effort possible to give th the best along the lines of practical work. T issue will contain articles from the best, m successful, progressive and down-to-date cit men on the coast. And as a means of reach the buying trade of the Southwest, we feel t everyone who has a surplus stock to sell reap the benefit of these large issues. While edition will be larger than our regular issue, the advertising rates will remain the sa Would it not be well if you are already an adv tiser to increase your space for this special and if you are not, to send us at least a trial vertisement as we know we will reach more are interested in gardening and diversified fa ing than in any other one issue during the

Agricultural Notes of the Pacific Coast

Northern California

Oakland has one of the strongest anges in the State.

Gridley is getting to be the center a growing onion industry.

Hundreds of acres are being plant- to grapes near Arbuckle.

Sonoma county Pomona Grange ill meet in Petaluma February 29th.

Anderson recently shipped six cars beef stock to San Francisco in one y.

Farmers in western Tehama county e feeding Missouri corn to their eep.

Many Sacramento valley farmers e purchasing sacks for the coming ason.

The Cloverdale Citrus Fair which on this week is proving to be a ccess.

One blood-thirsty coyote at Peta- ma killed over 50 lambs before it is captured.

The heavy rains of a few days ago ve filled the streams of the entire cramento valley.

Progressive Grange, of Healdsburg, ld an interesting meeting at its t monthly session.

State Board of Engineers seem to ve difficulty in devising a plan for e levees at Oroville.

It is estimated that there are 800,000 cks of potatoes in the district near di which have not yet been dug.

An old scheme is being revived, ich contemplates the drainage of 000 acres along the Sacramento er.

The creameries of Humboldt coun- are producing a greater output is season than usual at this time of year.

The forest reserve in Shasta coun- is proving a great advantage to ck growers who at first feared it uld be a detriment.

The Florin farmers recently closed very interesting two-day institute, ich was largely devoted to small its and diversified farming.

Extensive plantings of White riatic figs are being made near ba City. One estate will soon nt 100 acres to this one variety.

The planting of trees and vines in ter county will be very brisk this son, many new tracts having been ened up and used as new divisions.

t is thought that the coming sea- will see sufficient beets planted the vicinity of the Hamilton City t sugar factory to make it a profit- le proposition for the first time.

The Sonoma County Poultry Asso- tion is having some difficulty in uring bids for its coming year's put. The supposition is that the nmission men and buyers have nbined to discourage co-operation.

The Sutter County Farmer re- rks that the rainfall has been siderably below that of last year l expresses the hope that it will tinue lighter as last year's fall s much heavier than could be con- iently cared for.

The State Board of Prison direc- s has sent out the following: otice is hereby given that the te Board of Prison Directors has d the price of jute bags at 6½ ts per bag and will receive appli- ions in accordance with the law on l after January 27, 1908.

Central California

Salinas has to the present time 7.78 inches of rain.

Watsonville has about eleven inches of rainfall to this date.

Orosi is soon to have a board of trade to talk of its productiveness.

Sand Creek recently overflowed its banks and did much damage in that section.

Almond trees generally over Central California are in bloom and apricots soon will be.

A fraternal life insurance law is to be urged by the patrons of husbandry in Tulare county.

The orchard area in the San Benito Valley will be greatly increased during this planting season.

The Tulare Grange has decided to make a campaign to increase the number of granges in the State.

It is estimated that over 266,000 deciduous and citrus trees will be planted this year in Tulare county.

The Alta irrigation district is to sell this week property of delinquents if assessments of the association are not paid.

"I find the orchards generally in good condition in this county," is the report of Inspector Day of San Benito county.

The advertised delinquent assessment list of the Turlock irrigation district shows a long list of delinquents on 1907 assessments.

Seropian Brothers of Fresno are sueing the firm of Catton, Ball & Co. in various sums aggregating $1,700,000 as a result of old raisin deals.

County Entomologist Morris, in an address before the San Jose Grange said that to gain complete control over the peach moth it was necessary to spray twice.

The recent storms have covered the Sierra Nevadas with snow, and in the canyons and gulches is claimed to be a great depth. On the level many sections report five inches.

The commission appointed by President Roosevelt to investigate the sul phur ruling question will not be able to make a report until near the close of the present session of Congress.

At a recent meeting of the fruit growers' executive committee which was appointed to press the matter of revoking the recent sulphur ruling, the fruit growers were asked to provide funds to maintain the campaign.

Stock growers south of Monterey are having trouble with mountain lions, which have destroyed calves, colts and other domestic animals. One lion was killed on the Hot Springs ranch, measuring nine feet from tip to tip.

It has been finally settled that the next Citrus Fair of Tulare county will be held at Exeter. At one time it was thought that Exeter was a little lukewarm and that Visalia would secure it, but she finally waked up and she is now promised a great fair.

The Farmers' Mutual Fire Insurance Company of Stanislaus county elected the following trustees for the coming year: Claus Johnson, G. R. Larson, Peter Erickson, Mons Bothun, Anthony Morgan, S. J. Booge and John Erickson. G. R. Larson of Turlock is secretary.

Southern California

Escondido wants a cannery.

Celery growers are spraying with Bordeaux.

Tustin is sending out six to ten cars of celery weekly.

Bear valley is now covered with about six incres of snow.

Forest rangers are soon to be clothed in a special uniform.

Canyons of the Sierra Madres are said to be packed full of snow.

Experiments will be made in sugar beet culture near Thermal.

Hemet had 2½ inches of rain or a total for the season of 7 inches.

Extensive planting of onions is progressing in Coachella valley.

Garden Grove ships 50 cases of eggs daily to Los Angeles market.

Three carloads of bees were recently received in the Imperial Valley.

About a dozen cars of celery go east weekly from one packing house at Tustin.

Rose nurseries, near Orange, will ship four cars of rose bushes this season.

One Orange county nurseryman has already sold 400,000 eucalyptus trees.

Oxnard has just given a walnut thief 90 days for swiping a half sack of walnuts.

Thermal is the first postoffice in Coachella valley to secure the rural mail route.

The Oxnard Courier says that the present outlook for sugar beets is very encouraging.

Santa Ana and Riverside are endeavoring to arrange their controversy over the water in the Santa Ana river by arbitration.

Employers of labor in Southern California have discharged many Japanese laborers during the past few days and employed white men.

The farmers of the Imperial valley are feeling much more reassurance regarding their claims owing to rejection of many contests by the land office.

Santa Ana Register says that ranchers are now busy preparing land and putting in grain; that there is no possibility of entertaining the blues.

Eighteen hundred grouse will be released in the National Forests of the San Bernardino Mountains by the State Board of Fish and Game commissioners.

Orange county has over 2000 acres of cabbage this year, which is 400 more than that of last year.

The rain of the 9th brings a total in most Southern California points for this season up to ten to twelve inches. Some sections showing a total precipitation of nearly fifteen inches.

The influx of stock has been so great in the Imperial valley that a shortage of alfalfa has been occasioned. It will be but a few weeks until a new crop will relieve the situation.

A company has been organized in El Centro to experiment in planting sugar beets. They aim to plant seed every month of the year making close observation of production and sugar content

The Coast

The next arid farming convention is to be held at Cheyenne.

A farmers' union has been organized at Wilbur, Washington.

Lewiston, Idaho, held the largest poultry show in its existence last week.

Farmers at Six Prong, Washington, recently held a most interesting farmers' institute of two days.

The Arizona navels for this season have all been shipped and the total output amounted to about 110 cars.

A huge irrigation project of a contemplated cost of $1,300,000 is under discussion at Wenatchee, Washington.

A great apple show is promised yearly in connection with the State Horticultural Society of Washington.

The farmers' union at Dayton recently purchased 100,000 sacks for next year's grain at a favorable price.

One stock raiser at Dillon, Mont., recently shipped twelve carloads of sheep to the Cudahy Company of Los Angeles.

The Southern Oregon Angora Goat Association was organized recently at Grant's Pass, Oregon. C. E. Harmon is president.

Farmers of Whitman county, Washington, are urging the advisability of bulk shipment of wheat as against sack shipment.

Walla Walla Farmers' Union recently made a purchase of 1,000,000 bags at at 7½ cents. This is much better than last year's price.

Members of the Rockford Fruit Growers' Association are buying spraying material in large quantities and supplying members.

Farmers near Hubbard, Oregon, are deriving much profit from raising onion sets. One farmer reports a return of $800 per acre.

Fruit growers of the "Inland Empire" in the great productive plain in Eastern Washington are asking for canners to establish large plants there.

Apple growers in Northern Idaho, 40 per cent. of whose fruit last year was infested with codlin moth, are urging a campaign to reduce the pest.

Prune growers at New Plymouth, Idaho, have found apples far more profitable than prunes and are removing prune trees in favor of apples.

Eastern Washington wheat growers have a large acreage of wheat, which is reported in good condition and for which a long price is anticipated next year.

Secretaries of the different fairs on the North Pacific circuit met in Portland, Oregon, recently and discussed matters relating to next fall's agricultural fairs.

Stock growers near Forsythe, Mont., are jubilant over the recent heavy fall of snow, as the dry weather of the earlier winter had caused suffering because of lack of water.

Hop growers at a meeting at Puyallup passed a resolution agreeing to cut the acreage of hops by one-third, provided the growers of Oregon and California would do the same.

The Deseret Farmer is appealing for more attention to be given to exhibits from the everyday farmer at its State Fair and less to the big interests which usually monopolize the entire space.

PER 2 BUSHEL SACK $1.90 PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
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Eggs for Hatching

From Carefully selected purebred stock of

White Minorcas White Leghorns
Buff Orpingtons Aylesbury Ducks

For full particulars and prices on eggs and incubator chicks apply to

Coulson Poultry & Stock Food Co.
Petaluma, Cal.

Beef Scraps Raw Bone

GUARANTEED ANALYSIS:
Protein.......................65%
Fat.................................8%
Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps. No fertilizer ingredients in these Beef Scraps.

GUARANTEED ANALYSIS:
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Made of Clean Beef Bones, surplus fat removed. Cleanest Raw Bone on the Market.

Pure, Clean Animal Matter Poultry Foods

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FERN PARK POULTRY RANCH

EGGS FOR HATCHING

All Eggs are from good, strong vigorous stock.

WYATT & WOLLITZ, Proprietors
—Breeders of—
Single Comb Buff Orpingtons
White Rocks and
Indian Runner Ducks

Orpington and Rocks $2 per setting; $6 per 100.
Duck Eggs $1.50 per 12.
Write your wants. Correspondence carefully answered.

Box 298. WYATT & WOLLITZ, Corona, Cal.

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

MUSCOVY DUCK.

HAVING been asked for a description and economic values of the Muscovy, we give a short article on this breed.

History.

Muscovy, like numerous other foreign varieties, are kept more out of curiosity than for the table. There seems to be some doubt as to their origin, but the general accepted theory is that they are from South America, where they were found in a wild state. One writer, as early as 1670, refers to them under the name of Turkish duck. It is stated that they inhabit the hottest portions of tropical America. During the day they live in swamps, where they find food, and towards evening may be seen sitting in rows on the lower branches of large trees. They often descend to make inroads into the maize plantations and cornfields, where they do considerable damage, plucking up at the same time the manihot plants from which tapioca is made.

Economic Qualities.

The Muscovy is generally admitted to be a poor layer, but, of course, there are exceptions to the rule. It is a large bird, quick in growth and carrying an abundance of meat, which is darkish in color.

We quote from the Farmers' Bulletin No .64, of the U. S. Department of Agriculture, as follows: "Muscovy ducks are very unsatisfactory birds to keep on the farm with other poultry, owing to their quarrelsome and pugnacious natures. In the wild state, before pairing, the males fight desperately, doing great harm to each other; and this fighting, quarrelsome disposition is inherited by the domestic duck. The temper of the drake is spoken of as abominable; his persecution of other poultry is never ceasing, and is credited with having attacked even children when his 'dander is up.' The flesh of the Muscovy is considered good when eaten young, and compares favorably with that of any other duck. They do not lay nearly so many eggs as the common birds. When bred they must be kept in yards by themselves, and their wings must be clipped to keep them from flying.

Description.

"The head of the Muscovy duck is rather long, and in the drake it is large, the top being covered with long crest-like feathers, which rise and fall when the bird is alarmed. The bill is of medium length and very stout. The face is the most distinctive part of these ducks, the cheeks being naked, with a scarlet fleshy space around the eyes, and the base of the bill caruncalated also with scarlet folds. The large, red face gives them a savage appearance, and to some it is hideous. The neck is well curved and of medium length; back long, broad and flat; breast full and broad; body long and broad. The wings are very long and stout; tail is rather long, with abundance of stiff feathering. The drake does not have the curbed feathers in the tail, as do other ducks.

"There are two varieties of Muscovy ducks, the colored and white. The standard weights are. A drake is 10 pounds; adult duck seven pounds; young drake eight pound and young duck six pounds."

* * *

AROUND THE YARDS.

Ducks have no crops and wh grain should not be fed

* * *

Water is not necessary for duc raising. We mean a swimming poo

* * *

Indian Runner ducks are great eg layers. Some go pretty close to 2 eggs a year. Duck eggs sell well.

* * *

Place water near the feedi trough so the ducks can wash dow every mouthful of food as they naturally.

* * *

With proper care a duck will l from a hundred to one hundred a twenty-five eggs in one season. Th should always have plenty of eg producing food and good shelter.

* * *

The best way to start in rai ducks is to begin with only a learn all you can about it, and try ot breed all the good birds y can take care of without crowdi the first year. If at the end of t year you are satisfied to go ahead, t on a large scale.

* * *

After ducks are hatched and beg to eat, feed them some soft feed a give them a shallow vessel for wat ing, for a small duck can get too w Always give ducks plenty of water drink, and I think it should be ne the feed trough, for ducks wash do their food with water and cannot e well without it. I find my duck better when the food is changed ten. I feed scraps from the table bread, potatoes, apple parings, meal, etc. They should be kept wa at night to keep in a growing con tion. A wire netting fence about t feet high is nice to enclose a du yard. Ducks require more fresh than chickens and can stand m cold weather. I believe there is m money in ducks than in turkeys, ducks are not subject to disease very seldom ever lose a duck afte is hatched.

* * *

What is the Trouble.

What is the matter with my ch ens? They go around gasping breath and three have died. I cooked potatoes, bran and short the morning, wheat and corn in afternoon.—H. G. T.

We can't diagnose the case v the meager description you g Kindly give all symptoms in writ that we may be able to give an i ligent answer to questions.

* * *

Incubating Duck Eggs.

Will you kindly tell me through columns of the Cultivator why I h never been able to make a good ha of duck eggs in an incubator. same eggs under a hen hatch fine have always handled duck eggs same as hen eggs. Do they want be handled different? If so, in w way? I have turned them, a them, and run them the same t perature as hen's eggs, with the of the thermometer resting on a the egg. If the thermometer has hanging up the eggs might hav two degrees cooler throughout hatch. Are the eggs under a he or is the hen's body 103 and the some cooler?—J. W. L., Garde

This question was referred to

S. C. White Leghorns
The Kind
That Pays

For my breeding birds I each year select a number of my handsomest, earliest developing pullets and trap nest them during their entire first laying year. The next season from these I select only those having satisfactory laying records. In my breeding pens are only hens of proven worth in their second and third season, and no bird that has ever shown a trace of disease. Each pen mated eleven hens to one handsome cock. I believe there is not in California a handsomer or better lot of birds and few as good. Can furnish eggs for hatching from these birds at $1.50 for 15, $7.50 per 100 or $60 per 1000. Let me book your order now.
Correspondence solicited.

S. E. Gregg
126 So. Adams St. Riverside, Cal.

Imported
Aylesbury Ducks

Winners at Crystal Palace and leading shows in England.
Also at the State Fair, San Jose and Oakland, 1906.
Also State Fair and San Jose, 1907.
Stock for sale and Eggs in season.

Vincent G. Huntley
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Also Breeder of Buff and Black Orpingtons and Barred Plymouth Rocks.

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Breeding stock and eggs for sale. Gobblers $5.00 to $10.00 each. Hens $3.00 to $5.00 each. Eggs 10 to 25c each.

C. E. Bunker
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Baby Chicks

All kinds. Hatching daily. We ship everywhere. Send for price list of chicks and eggs.

Pioneer Hatchery
11 So. Main St., Los Angeles

Barred Rocks a Specialty

can supply Eggs from strong, vigorous irds barred to the skin and correctly mated for $1.50 and $2.50 per 15. Incubator lots a matter of correspondence.

Enoch Crews
Darwin and Broadway Sts., E. Santa Cruz, Cal.

Spargur's Trap-Nested
White Leghorns

Eggs $1.50 per 15, $7.00 per 100. I. R. Duck Eggs, $1.00 per 13, $5.00 per 100.

H. G. Spargur, Soquel, Cal.

30-Acre Poultry Ranches
For $100

Close to Los Angeles. If you want quick returns on your money, call at our office for particulars.
23 Chamber of Commerce Bldg., Los Angeles

901 Sullivan's Buff Orpingtons 1908

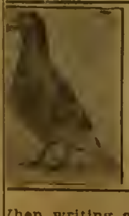
Our Commonwealth Strain leads them all! Show record never equaled on the Pacific Coast. Prices low as the lowest, quality considered. Stock and eggs for sale. Hundreds to select from.

Mr. and Mrs. W. S. Sullivan
Agnew, Santa Clara Co., Cal.
Yards Stone Throw from Depot.

Baldwin's White Leghorns

First prizes San Jose '06, and State Fair '07
Three 1sts and special, San Jose, '07.
Three 1sts, three 2nds and $50 Cup best display Petaluma '07.
Send for free '08 Catalogue and price list.

Frank E. Baldwin
6 Washington Ave. - San Jose, Cal.



HOMERS
Prolific Breeders
Winner of 1st pen at Breeders' Show
Satisfaction Guaranteed

C. E. Bunker
San Jacinto, Cal.

When writing advertisers, mention Cultivator.

Frank J. Ironmonger, of Los Angeles, who writes:

Many novice incubator operators are continually asking the questions: How can I hatch duck eggs in an incubator? Why do the ducks pip the shells and then fail to hatch?

My experience has been well divided with hot-air and hot-water incubators, and the hot water gives much better results. The principal reason for this is because most of the hot-air machines destroy by baking or drying the moisture thrown off from the eggs necessary to insure a successful hatch.

When purchasing a machine be careful to select one that embodies the following important features, viz.: A large, deep egg chamber and a roomy, well ventilated nursery. Duck eggs throw off a greater amount of impurities than do hen eggs and at hatching time require more air in the machine. Hang the incubator thermometer so that the top of the bulb will hang about on an average with the top of the eggs and run the temperature at about 102 degrees for the first week. Beginning with the second week run temperature to 102½. Twice a week, the second, third and fourth weeks of incubation, when the eggs are out cooling, spray, sprinkle or moisten them thoroughly with luke warm water. The tray of eggs should remain outside the machine until moisture has evaporated.

At the beginning of the third week run the temperature at 103 degrees. After the first week air your eggs well each day, in order to obtain a good sized air space. While the eggs are out airing keep the incubator door open; it will purify the air in the machine. Do not put moisture in the machine; it does not give the desired results; instead of decomposing the shell—as it does when applied directly to the shell, as explained before—it goes through the shell to the duck, where it is not wanted; but when applied to the shell it will decompose and soften, allowing the duck an easy time extricating itself from the shell without the operator's assistance.

* * *

DUCK FEATHERS.

Where any considerable number of ducks are killed each year, it is best to save the feathers, for they sell readily at thirty-five to fifty cents a pound to dealers in most of the large cities. Chicago and New York take the greatest quantities. Eight to ten six-pound ducks will produce a pound of feathers, so that the revenue from each will be about five cents for feathers alone.

Only the soft feathers should be saved, but most of the feathers are soft, so it is necessary to discard only those of the wings and tail. As these should always be plucked first, they may be thrown aside and the remaining feathers thrown into a box near the operator. Pin feathers should not be mixed with those that are to be sold. After each day's picking, the feathers should be spread on the floor of a dry loft, where the sun and air will dry them thoroughly and cleanse them. When they are thoroughly dry, they should be placed in clean cloth bags and forwarded to market.

In every neighborhood there is at least one farmer who bears the reputation of being able to do as much work in one day as the average man can do in two. The reason usually lies in the fact that he has the very best tools on the market with which to work, and he keeps them in the very best condition possible.

A New Deal
ON
Sure Hatch Incubators
For Pacific Coast Trade
Lower Prices!

Every Incubator Buyer Should Investigate

We have discontinued our Los Angeles selling agency and are selling direct to the user from the factory. We have a few machines at **Los Angeles** and a fine stock at **Salt Lake City.** Don't buy until you get our Free Catalog and New Prices. **Quick action is absolutely necessary,** as these machines at bargain prices will be snapped up in a hurry. Write immediately to

Sure Hatch Incubator Company
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Free Book and Bargain Price Certificate
SURE HATCH INCUBATOR CO.,
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Please send Free Book and Bargain Price Offer.

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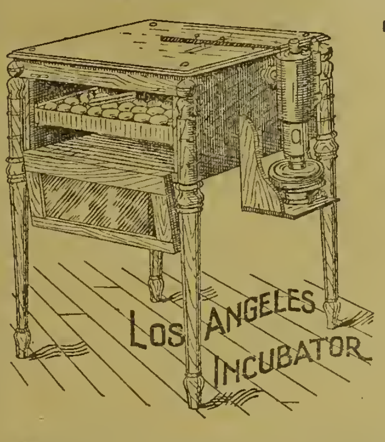

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WHEN YOU BUY A
Los Angeles Incubator
THEY ARE GUARANTEED
OPAL INCUBATOR OIL
5 GAL. $1.50
10 GAL. 2.90
GET OUR FREE CATALOGUE
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5,000 MEN OUT OF WORK

Can feed a few hens on the scraps from the table and have eggs for the family every day in the year—but

Little Chicks should be fed on Excelsior Chick Food

prepared from clean, sound grains, seeds, beef scraps and charcoal in proportions to make a well balanced ration and produce strong, healthy chicks and keep them continually growing. For sale by all dealers and grocers. Take no other.

Excelsior Cereal Milling Company
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White Wyandottes Exclusively
CREAM OF THE COAST
Our strain have won in strong competition on the Pacific Coast
Eggs $3. and $5. Per sitting of 15. 100 Eggs $15 and $20

Eggs from Exhibition stock now ready; "Madam White" and other prize winners Fertility Guaranteed. A trio two pullets and a cockerel, reasonable. Here is a good start for you.

Day old Chicks Incubator lots our specialty, $15 per 100.
Booking must be made in advance
Send for our new Catalogue

George W. Grace & Son Rural 21 Capitol Ave
Box 98, San Jose, Cal.

Trap-Nested White Wyandottes

That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribons, all at Los Angeles County Poultry Ass'n Show, Dec. 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah.

Mission View Poultry Ranch Mrs. C. D. Hubbard San Fernando, Cal.

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S. C. Black Orpington Cockerel
2 Prizes, Los Angeles, 1907

Holmby Poultry Farm
Eggs from imported prize winning
S. C. Black and Buff **Orpingtons**
S. C. White Leghorns
From $1.50 to $15 per setting. Two good pens of White Minorcas for sale.
Write for descriptive Circular.
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Ranch Mirasol (Lincoln Avenue Poultry Yards)
S. C. White Leghorns---Mitchell Strain
Eggs for Hatching
Our birds are not the culls and accidents of the fancy breeder, but have been bred for generations for a definite utility type to lay both quality and quantity. They are selected by the Hogan system and mated by Standard requirements. Ready for delivery January 1st. Order books now open.
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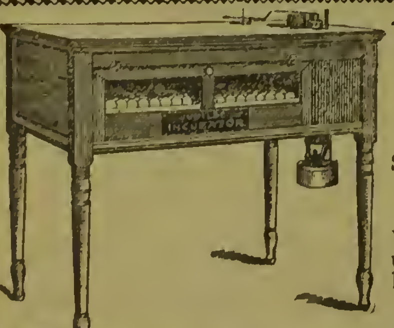
ALTADENA CARS

Feed the Chicks and Kill the Gophers
West Coast Chick Feed
A full, rightly balanced ration for the little ones, to be fed dry. All pure feed, no filler, no waste. The biggest seller because the best made. Keeps them growing and healthy. For sale by many dealers; if not by yours send direct to us.
Bille's Gopher Poison
is most attractive to gophers, squirrels, etc., but sure death. Endorsed by Agricultural Colleges and Experiment Stations. Has had the greatest success for years in the Middle West, and also here in California last season. Circular with many testimonials and Affidavit of 201 killed in one day. If your dealer hasn't it, send $2.50 for two bottles, (not less than two) express prepaid by us. Money refunded if not as represented—so printed on the bottle.
WEST COAST MILL
818-826 San Fernando St. (Through to Alameda) Los Angeles, Cal.

CROLEY'S *Meat Scraps* *Meat Scraps*
No Hair **$3.00 per Sack** No Hoofs
Geo. H. Croley - *Petaluma, Cal.*
Croley's Green Bone, $2.50 per Sack



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HAS A BIG SURPRISE FOR THE POULTRY FRATERNITY
SUCCESS NOW ASSURED BY USING
The Jubilee
We have something new for you. Send us your name to place on list for Catalog "J" being issued.
Jubilee Incubator Co., Sunnyvale, Cal.

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Beef, Blood and Bone Will Make Your Hens Lay
This is not a medicine but a high grade nitrogenous food. Write for free booklet "How to make Hens Lay." Our Poultry Foods are sold by all local dealers and manufactured solely by
The Pacific Guano and Fertilizer Co., Indiana and Yolo Sts., San Francisco, Cal.
Also Pioneer Manufacturers of *High Grade Fertilizers.*
Write for our free booklet, "Farmer's Friend." Valuable to all farmers and ranchers.

SHADE'S RHODE ISLAND REDS
The World's best layers. Get our folder. Drop a postal to
J. W. Shade *San Bernardino, Cal.*

WHITE WYANDOTTES EXCLUSIVELY
Good, White, Typical Birds. Stock and Eggs For Sale.
W. A. SEYMOUR
470 No. Beaudry Ave. Los Angeles, Cal.

FOOD FOR HENS.

The most costly portion of the egg is the white or albumen. This is derived from the nitrogenous matter of grains, but principally from the animal foods. Hence meat, milk, insects and grains, rich in gluten, are the best foods for that purpose. One of the cheapest articles that can be used is blood. If it can be secured from the slaughter house, mixed with the ground grain and cooked, it will be highly relished by the hens, and will largely assist in egg production. When meat is used the lean portion should be preferred, as the fat is of but little service if corn is used in the food. One of the cheapest substances for adults is milk, whether sweet or sour. Regarding the use of blood it is well adapted for egg production. It can be given with advantage to chicks as well as fowls, and be used in several different ways. First, by mixing one pound of blood with three pounds of mixed ground grain, and the whole mixture cooked as bread. There is nothing superior to it in such form, not even meat. Second, if the mixture of blood is put in a bag and boiled it makes a food that not only takes the place of meat, but it is better for the purpose. As the blood at some slaughter houses is usually wasted there should be no difficulty in procuring it. It will keep any length of time in winter, but if not cold weather, should any portion remain after feeding, it may be added to the compost heap, where it will still be valuable as one of the best nitrogenous fertilizers that can be used.—Coleman's Rural.

BIRD LIARS.

"The goose is a frightful liar," said a nature faker. "He quite puts me to shame."

"Really?"

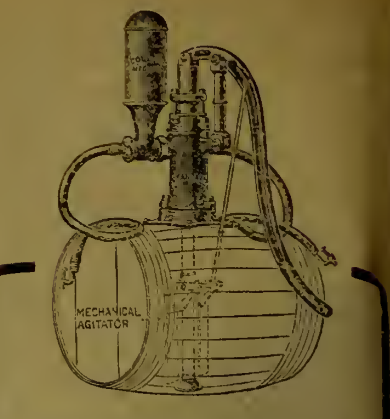
"Really. You know how the goose, when you draw near it, hisses? Well, with that hissing sound it says: 'Scoot, beware, I am a serpent.' Yes, from primeval times the goose mother, sitting on her eggs in a place of reeds and sedge, would not fly when an intruder appeared; but, keeping her body concealed amid the leaves, she would stretch out her long, flexible neck and hiss wickedly. 'A snake in the grass,' the intruder would say to himself, as he retreated; and on her eggs the goose would chuckle in a sly, contemptuous way.

"The lapwing is another liar. Approach her nest and she sets up a distressful crying and runs back and forth in front of you, trailing one wing as though it were broken. You follow; you think to snatch her up in your hand; with this lie she lures you away from her young.

"The thrush, in time of drought, beats with his feet on the grass like a clog dancer. Thus he lies to the earthworms; he makes them think that it is raining. Up they come in silent haste, and the deceitful thrush makes a rich meal."—Philadelphia Bulletin.

LARGE SHIPMENTS OF BABY CHICKS.

The Pioneer Hatchery Company is shipping chicks by the thousand all over the State. The firm takes especial care in handling them, and the loss in transit is very small. Recently on a shipment to Watsonville not a chick was lost, and a party at Tucson reported every chick arrived alive and chirping. By addressing the above company at 711 S. Main street, they will mail a complete price list of chicks and eggs.



Double-Acting Sprayer
With 3-inch brass-lined cylinder, brass-encased outside-packed plunger and brass valves. Large air chamber and long lever. Powerful enough for two leads of hose and four nozzles. Can be placed on end or side of barrel.
Complete outfit, including Pump with suction pipe and strainer, one 25-ft. lead of 1-2 in high pressure spray hose, 6-ft. iron pipe extension and one Seneca spray nozzle (no barrel or agitator) packed ready for shipment for $12.75.
In ordering state whether you want sprayer for end or side of barrel.
We Carry Largest Line of Sprayers on the Coast
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Successors to
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S. C. White Leghorns
Barred P. Rocks
Won on White Leghorns at the Poultry Breeders' Association show, Jan. 6-12, 1908. 4 firsts, 2 seconds; 4 thirds; 1 fourth; 1 fifth. Also Association cup for highest scoring on White Leghorn cockerel. Eggs for hatching, $1, $1.50 per 13; $5 per 100. Prize winning pens, $2 per 13. The hens in our breeding pens are all selected two-year-old hens and bred to lay and win.
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San Gabriel Electric to Masonic Home then 2 blocks South.

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Buy the Genuine South Bend
Largest Assortment
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Eggs and stock for sale from the best place in California. Nov. 1908 nearly all prizes at Hanford, Fresno and Petaluma, including 4 silver cups. Eggs $3.00 per setting from select matings, $7.50 per 100 from choice stock.
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Barred Rock and Buff Orphington Eggs
Chicks hatched to order. We have taken the ut most care in procuring pure stock, also selected by the "Hogan System". Visitors and correspondence solicited.
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Four pens, headed by Red Ranger, Red Flame, Red Scout, Red Cloud. Eastern winners. Eggs, standard utility, $1.50; select fancy, $2 for 13 utility stock, $2. A. H. WHITE, DOLGEVILLE, CAL.

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here are many poultrymen who lemn the Leghorn because it is ighflyer, nervous, active and rest- in confinement, but there is not ird in the United States that has ven of more value to poultry ers than the Leghorn. They ma- very quickly, generally laying five months of age. If they were other birds, attaining more ght, they would not begin to lay il two or three months later. difference of two or three aths results in two or more en of eggs, and that fact is not to overlooked. It is fully the value he price of the hen herself. The horns are non-sitters and also e up again in that respect re- ling the number of eggs laid. en other hens are on the nests Leghorns may be depended upon eggs. As improvers of the com- flock the Leghorns are superior, they strongly impress their racteristics firmly on their off- ng. So well established are they g these lines that a single Leg- n cock with a dozen hens will duce chicks almost exactly like Leghorns, although the chicks hed may be of different color shape. If once a dash of Leg- n blood is secured it will show in flocks for four or five genera- s. Their excellency cannot be ied, but like all other breeds they characteristics which debar n from some yards.—Coleman's al.

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d you notice the peaceful pasture e on the first cover page of this e? It is from a photo taken in the ls of the Old Cone Ranch, of the Molinos Land Co., at Los Molinos, ama county.

is magnificent section, comprising e 16,000 acres, is now being subdi- d into five to 20-acre tracts, and ead of the rich pasture fields, will be covered with small fruit farms contented homes.

Cultivator representative recently ed over this proposition very care- y and reports it a most attractive The land is rich, is situated so o be watered by gravity, it has a etual water right and it will pro- practically all the fruits and tables of California.

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e land is near Tehama, on the oad, with prospect of an electric in the near future.

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the center of the townsite, which he way, is remarkably well locat- is a fine hotel with modern conven- s.

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is a proposition well worth looking . Further information may be had looking up the ad of the company his issue, or better, by writing the pany.

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e Madary Supply House whose n factory is at Fresno; and whose cipal branch house is in Los An- s, is out with a revised price cur- on bee supplies, which all bee in the State should supply them- es with. It not only gives prices, is fully illustrated with particular rmation used in the production of ey. We think it is furnished on uest, postage prepaid.

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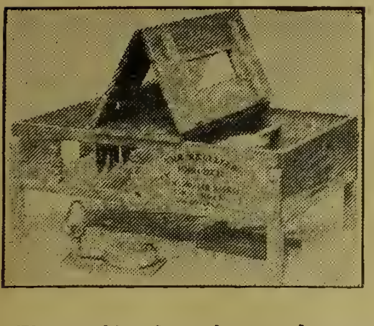

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does not cease when we sell it to you. It is our pride and we want to keep in touch with it all the time. We know it will uphold our reputation for a square deal and Reliable Goods only, and that it will raise a larger percentage of strong, healthy chicks than any other brooder.

W. H. King, of Bell, California, says: "I put 216 chicks direct from incubator into three of your Reliance Brooders. At the end of eight weeks, when I removed them to other quarters, I had 208 strong, vigorous fellows left."

Send for price list and testimonials.

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Send for my catalog, contains the most interesting poultry lectures every written. We hatch by the thousand. Our experience is at your command FREE.

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Is breeding exclusively Mammoth Bronze Turkeys, Barred Rocks, Brown and White Leghorns. Stock is graded. Yard one, all selected birds, 15 eggs for $2.00. Yard two, 15 eggs for $1.00. All full blood turkey eggs, 9 for $1.50 and $2.25. Some fine Gobblers, Barred Cockerels, Brown and White Leghorn Cockerels, Pullets and Hens for sale.

Write for prices, naming your requirements.

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All kinds. Hatching daily. We ship everywhere. Send for price list of chicks and eggs.

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WINSLOW'S REDS The bird for the Farmer and Fancier.

Write for 1908 Mating list.

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Fresno Poultry Show, 1907, with 20 birds on display we took 14 prizes, four firsts. Young stock for sale. Eggs in season.

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You can use one of the Glendale Incubators at your home, through two hatching periods—without cost.

At the end of that time if you are not suited—if it hasn't fulfilled our promise—return it to us and get your money back.

We will pay the return freight and even the oil you have consumed, thus the test won't cost you one penny. Don't you call that a liberal offer, and do you think we could afford to do it if we didn't know our machine would "make good?"

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We haven't space here to go into details of construction, but will say that it is a hot water machine, specially ventilated providing pure air and moisture, and heated by the best safety lamp made, and the principle on which it is constructed is right.

The chicken business properly managed is a winner, but you must have the "equipment" and equipment on the poultry farm means hatching facilities. Your equipment is O. K. and you will be safe if it's a Glendale.

Really now, can you afford to be without one?

Write for our folder or better yet call and see us at 803 South Main Street, Los Angeles, California

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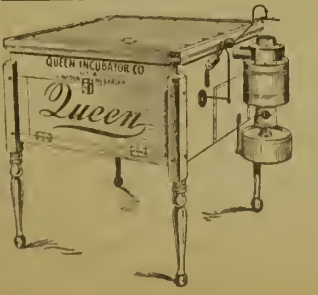
We also carry seeds and poultry foods that are good



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110 capacity for $8.25 f. o. b. Los Angeles. These are all new machines, never been out of the crates. And guarantee to do all we claim or your money refunded within 60 days. Send for our New "Queen" Book No. 6. It is free. Special prices for February on 1908 model. Or call at 440 San Fernando Bldg. Corner 4th and Main and inspect the "Queen" of all Incupators. Prices are the lowest.

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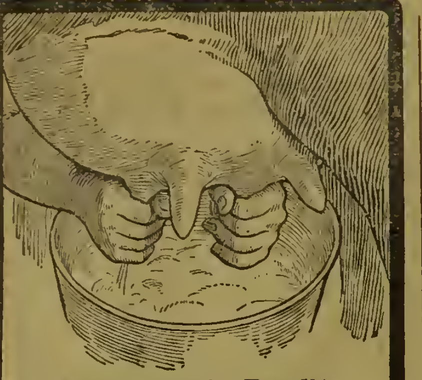

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Give a cow good food and *power to fully digest it* and she in return will give you ample reward at the pail. Noted authorities tell us that something to correct digestive troubles becomes a necessity if the maximum flow of milk is to be maintained, because overfeeding, sooner or later, impairs the stomach and nerves, preventing necessary secretions of gastric juices.

DR HESS STOCK FOOD A TONIC

puts the cow in condition to pay. It is the prescription of Dr. Hess (M. D., D. V. S.) and besides ton[illegible] ments contains iron for the blood and [illegible] to cleanse the system. It shortens the time required to fat an animal, gives appetite for roughage, and shows its value by lessening the per cent of nutriment lost in the droppings.

Sold everywhere on a written guarantee
Costs a penny a day for horse, cow or steer.

100 lbs. $7.00 **25 lb. pail $2.00**

Smaller Quantities at a Slight Advance.

Where Dr. Hess Stock Food differs in particular is in the dose—it's small and fed but twice a day, which proves it has the most digestive strength to the pound. Our Government recognizes Dr. Hess Stock Food as a medicinal compound and this paper is back of the guarantee.

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Is making the very best strains of blood fresh from the Island of Jersey a specialty.
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Thoroughbred Poland China Swine
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High Grade Stock of Best Strains.
Young Stock For Sale
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Live Stock and Dairy

SANITARY MILK.

IN A sanitary stable, milk is drawn into covered pails. There are several styles of these pails covered with patents. The old time unpatented pail has the merit of being inexpensive and is easily cleaned. In buying a patent pail see that the curves are well rounded so that the hand and brush can be used on all parts. The old style of pail was made by having a tin cover made for the regular milking pail. In the cover a hole one inch across was cut to admit the nozzle of a funnel. This funnel was made with a wide flare, and on the edge a flat ring several inches wide was soldered. A second loose ring slipped over this first one. The funnel then had a piece of cheese cloth put over it loosely and the tin ring fitted it firmly to place. The funnel was inserted in the hole of the milk can cover. The milk from the cow fell directly on the cheese cloth and strained through it into the pail. When the milk fills the pail and the cover is removed to empty it, a fresh piece of cheese cloth is put on the funnel. The soiled strained cloths are dropped in a pail of weak sal soda water. These cloths are washed, dried and used until worn out.

Clean Milk.

Clean milk and careful cleansing of the milking utensils can be made routine work. Drill the men always to do the same things over and over again in the same order. The cans first filled and well rinsed out with cold water. Then scrubbed clean with hand brush and plenty of hot water and sal soda, well rinsed with hot water, then turned over a steam jet and well steamed. Put, while hot, on the racks in the open air, turned upside down, until they drain out and dry with their own heat. The use of plain sal soda is better than soap and soap powders. Use weak solutions with quantities of hot water. Soap and rags keep away from the dairy at all times. Cans that show worn spots in the tin or rust should not be used for milk. A small crack will hold bacteria enough to seed down a whole creamery. New cans are rarely enough found nowadays. The dairymen have rejected poor soldering that the jobber in turn refuses to accept imperfect goods from the manufacturers.

Glass Bottles.

For milk delivery the glass bottle is preferable. The law in many places forces the housekeeper to return the bottles washed. In California this does not always occur. I have had bottles returned with the remains of pickled onions in them. A patent paper bottle is now offered for milk that is very promising, but all these niceties cost money. The same woman that will not hesitate to have an extra feather on the Easter bonnet, will hesitate and haggle desperately over a cent more on a quart of milk. No one can see what goes into our stomachs when we walk the streets, while the bonnet all can see. I heard at a farmers' institute a paper read that recommended the glass milk bottles as a convenient package of receptacle to hold the groceries used in light housekeeping.

Bottles are handier to clean than are cans, with a good bottle brush and plenty of hot sal soda water they are cleaned and put on a rack upside down. Then the rack of bottles is put into a steam box, filled up with rinse water and the steam turned in until the water boils around them. After five minutes of boiling a tap at the bottom is opened and the water let run off. The steam continues for five minutes more and then turned off. The bottles are left to cool off before the chest is opened. The cost of the bottles is offset in many cases by the saving of loss of customers. The drivers have a neat little way of stretching the milk by watering it and selling the extra for money; needless to say this money is "knocked down."

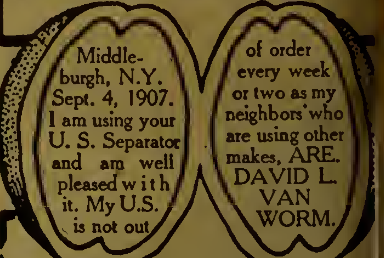
Aeration.

At times the health boards insist on farmers using aerators. These are often a detriment to the milk rather than an advantage. Many claim that they are a positive injury to the keeping qualities of the milk at all times. There is truth in both statements. Milk run over an aerator in a foul stable will be more contaminated than if it were left to cool naturally. In a clean, airy place, the milk run over the aerator is quickly cooled and gases are thrown off, then the milk can be put away and properly protected. The souring of milk is natural, and it can only be retarded by coolness. In the ordinary ice chest or refrigerator it will keep sweet longer than when exposed to outside temperatures. When milk is kept too cold to sour by the development of lactic acid bacteria, it will still spoil by the development of other bacteria. The bitter milk and cream of the winter time is an example of other bacterial life than that of lactic acid, that every woman that makes butter at home has run against some time in her life.

Milk sometimes develops toxic poisons, and it is found in ice cream that has slowly melted and been refrozen, the ptomains are often deadly. The ptomanies poisons are regarded as the results of the life processes of bacterial growth rather than the bacteria themselves. At 60 degrees bacterial growth is slow; at 50 degrees very slow and at 39 degrees it stops altogether. Milk kept on ice will remain sweet a week; the use of ice is rarely practiced in California as the expense is too great. A temperature of 60 will keep the milk sweet twenty-four hours, by chilling the milk as soon as drawn and putting the cans into barrels of water or into chaff-lined barrels or even wrapping the cans in wet sacks, the milk can be kept very sweet for twenty-four hours. Cooling by evaporation is constant, and if the water is kept constantly dripping over the surface of a can it will reduce the milk several degrees.

Bacterial growths in milk are largely affected by the three conditions of time, temperature and the lactic acid. This bacteria has a germicidal effect of many other forms. The range of temperature in which bacteria live is not after all very wide. There is one point proved at which they increase with marvelous rapidity. From a bulletin of the Storrs Station I take the following: "Two samples of the same milk were used, one placed in an ordinary room at 70 degrees; in this the increase 750 fold in an hour, while milk held at 50 degrees only showed a bacterial increase of five fold in ten hours. Milk kept at the temperature of 98

The Whole Truth In A Nut Shell



Middleburgh, N.Y. Sept. 4, 1907. I am using your U. S. Separator and am well pleased with it. My U.S. is not out of order every week or two as my neighbors' who are using other makes, ARE. DAVID L. VAN WORM.

It's "Reliable"
And RELIABILITY is "THE quality of qualities." A reputation for RELIABILITY is not won in a day, a month or a year. Consistent performance during the slow testing of time, *alone* is sufficient to prove that most satisfactory of qualities — RELIABILITY Each year for past sixteen years, the

U.S. CREAM SEPARATOR

has been adding to its reputation for RELIABILITY which is UNEQUALLE today. Dairymen today choose th U. S. because they KNOW it can b depended upon to do the Best worl ALL the time and the Longest time too. Time has PROVED it.

Mr. Van Worm's few words sum up completely the many reasons why dairymen everywhere are fast exchanging their old style, unsatisfactory or "cheap" separators for the RELIABLE, clean skimming, up-to-date U. S. If YOU have one of "the other kind," WE'VE a proposition to make you. Just ask us about it, please.

The thirty illustrations in our new catalo enable you to easily SEE why the constr tion of the U. S. makes it the most REL ABLE and profitable. Won't you send tod for free copy? Just ask for "No. 20

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Greatest maker of sound horses world. Tested many years, never fa cure be possible. $100 reward if it For lameness, curb, splint, spavin, ringbone, swellings, etc.

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liniment for household use. Ask for Tuttle's American Worm and Condition Powders and Hoof Ointment. "Veterinary Experience," perfect man's guide free. Symptoms and treatme all common ailments. Write for it. Posta
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Beware of all blisters; only temporary relief, if

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Are given the preference by 80 f California stockmen because they give better results than others do.

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Importer and breeder of RED POL CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORN AMERICAN MERINO SHEEP. sexes for sale. Take electric car at aluma or Santa Rosa for LIVE O STATION. Address all mail to
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Wood Sole Boots and Shoes

We wish to call your attention to the fact that we have a large stock of Wood Sole Boots and Shoes of the very best quality. The Uppers are made of the very best quality Milwaukee Oil Grain. The Soles are well-shaped, and are an exact and comfortable fit, and our ***Patented Fastening*** makes this a ***Waterproof*** Shoe. We all know wood is a non-conductor, consequently it is much drier and a great deal ***warmer*** in Winter. They are lighter than Rubber or Leather Shoes and Boots. Shoes, $2.00; Boots, $3.25.

O. J. Weber Co. 555-557 S. Los Angeles St., Los Angeles, Cal.

l curdle in 18 hours; kept at 70 l curdle 48 hours, while in an ice est at 50 degrees will keep from rdling for 14 days or more. In w milk the bacteria are stationary a short period, while at ninety dees the bacteria growth is retarded two hours; when at 70 degrees bacteria does not increase fast four hours; then after six hours increase is very rapid. In elve hours there may be millions.

"If the temperature of the newly awn milk is reduced at once to fifty grees, this preliminary growth of cteria may be retarded; at the end forty hours, in some experiments, ere were no more than at the beginng. The experiments show that e keeping of milk after all depends ore on temperature than on any ing else. The maintenance of a w temperature is, therefore, more cessary than even cleanliness. The cterial count is more dependent on mperature at which the milk has en held than on other precautions. ne bacterial count has, therefore, en discredited as a factor in securg sanitary milk. The preservation milk from pathegenic or disease rms is more a matter of controlling e surroundings as the water used in eaning cans, than counting the rmless batceria that may swarm in e milk after it has been kept at imoper temperature."

ROLLING RESTS A MULE.

A writer in Farm Progress says:

There are many who claim that a ule is superior to a horse in intellience, and there seems some ground r such belief. The chief claim is at the mule knows better how to ke care of himself, and as for lookg out for number one there are few imals in creation that are superior.

There it at least one illustration of is fact—so old that it is almost new. you unharness a tired mule for a oment by the wayside and allow him brief interval of rest, the chances e that he will not at once begin to raze as would a horse. The mule ill almost instantly throw himself to e ground and "roll," kicking his eels in the air. He will keep this up r a much longer time than a horse ould, and apparently put his whole ubborn heart into these rather reiarkable gymnastics, and after arisg will wisely proceed to graze.

All farmers have doubtless noted his, but they have perhaps failed to note the main point. When the mule arises, he is no longer a weary mule, but a fresh one. His brief tumble and roll has refreshed him as much as if he had slept all night. He is weary no more because he has cured himself of weariness by a remedy known only to himself.

This discovery was made and kept secret for many years by monks in the Middle Ages. The subject was discussed at length in a manuscript of 1460 found in a Roman monastary, and was one of the secrets of that brotherhood. Because the source is antique there is no reason why it may not be true and it might pay the modern farmer to put this to a test.

A PROFITABLE COW.

The following are the essential points in a good dairy cow, as stated by a practical man:

A continuous milking cow will almost always have a large jaw, indicative of good feeding qualities; a long slim ewe neck, accompanied by a thin sharp wither. As you pass down her back you will find the double chine; her ribs will spring from her back, so that they form a wedge, viewed from the front, on both sides.

Next, you will find high hip bones—the higher the better—if you can hang your hat on them all the better. Her thighs will be flat, and she will have a large paunch, the more the better. What is the value of the last indication? The greatest bulk of food is composed of roughage. The cow cannot make something out of nothing; to produce a large flow, she must be a big eater. If she and her ancestors are and have been good feeders, and have had the structural form here described they will be big producers. In addition, the cow must be loose-jointed, and she must have a wedge shape, viewed on both sides, as well as from the top and under lines. Such a cow, so built, cannot put the feed on her back, but will utilize it to put it in the pail.

DOCKING LAMBS NOT CRUEL.

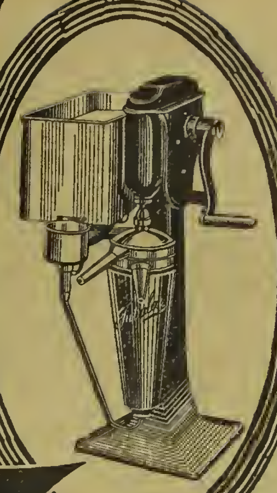
All lambs should be docked. It is not a cruel operation, if performed when they are a week old, and it is one that is absolutely necessary for cleanliness and appearance.

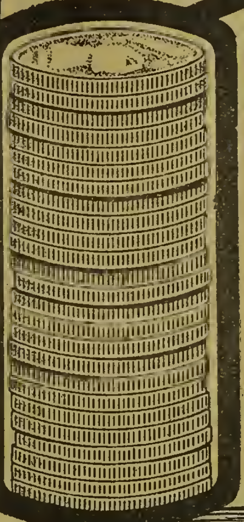
Docking looks to be simple enough, but it requires great care. If the tail is cut too short with the knife the lamb is likely to bleed to death. Some shepherds sear with a hot iron the end of the tail after being cut with a knife or chisel on a block of wood, and this generally stops bleeding.

After the operation the end of the tail should be covered with clean pine tar to prevent flies from troubling the lambs. The animals should be watched closely, particularly if the docking is done late in the season, until the wound has healed, to see that no flies have attacked them.

PORTO RICO COW HUMBLE.

"The Porto Rico cow," said the man who had been stationed on the island as a soldier for two years, "is as humble a looking animal as one ever came across. I never saw one hook or kick or display the least temper, nor did I ever find any one else who had. The first time I ever saw one milked was a matter of greatest surprise. When a boy had driven her up to the shed, where she stood chewing her cud and switching her tail, the owner brought out a rope and tied her head fast to a post. Then a second rope made her front legs fast. A third did for her





CREAM PROFITS

If you are selling your whole milk to the Creamery you are not getting as much profit from your cows as you should. In fact you are losing 50 per cent. Without increasing your feed bills one penny or milking another cow you can double your cream profits. This is demonstrated by thousands of dairymen and farmers every day in the year.

The Sharples Tubular Separator

gets all the cream in the milk—it skims out every cent of profit, so that you can turn it into cash. Here's one letter that tells the story of how to double your cream profits:

Union Mills, Ind.

GENTLEMEN:—We have a Sharples Tubular. Before we bought it, we bad been selling our milk to a creamery at Union Mills, getting not more than $8.00 a month, **but since we have the Tubular, we have been getting twice more,** and are so satisfied with the Tubular.

MRS. JOHN C. MILLER

Such proof as this ought to convince you that a "**Tubular**" will be a money-maker for you. The extra profit will soon pay for the separator while it will keep right on earning these big profits for years. Write today for our new catalog and **free** copy of that valuable book, "**Business Dairying.**" Ask for book No. 260.

THE SHARPLES SEPARATOR CO.,

West Chester, Pa. Toronto, Can. Chicago. Ill.

IMPROVED IN EVERY FEATURE

Have you seen and examined the New and Improved 1908 LE LAVAL Cream Separators? If not, and you own one or more cows don't further hinder your best interests by delaying longer but let us give you a free demonstration in your own home at once. You will marvel at the mechanical perfection, the wonderful simplicity and convenience of these new machines. These new machines show improvements in every feature, from the supply can to the base of the machine, and mark the greatest move forward in separator construction since the invention of the first practical separator by Dr. De Laval in 1878. If you have milk cows you cannot afford to be without one. The new De Laval skims closer, has greater capacity, operates easier and is more ideal in every way than De Laval machines have been even in the past. The improved De Laval is actually ten years in advance of any other separator made today. There are ten new styles, ten new capacities and ten new prices. There is a machine for every dairy, from the smallest to the largest and at a price that will fit every pocket. Don't regret later that you didn't see the De Laval before you bought a machine but write us today for our handsome new catalogue describing the machines in detail and a free demonstration in your own home. You will be surprised. Don't delay.

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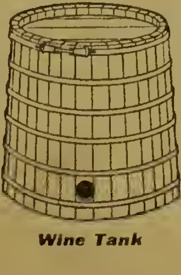
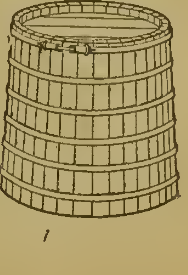


Wine Tank



Tanks Tanks

WINDELER'S PLANING MILL
AND COOPERAGE

GEO. WINDELER, Prop

Water Tanks, Wine Tanks made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

Geo. Windeler

144-154 Berry St. San Francisco, Cal.

Gives Surprising Results

No pest is quite as discomforting to an animal as the common sheep tick—they actually suck the very life blood of the sheep. All sheep have ticks. Why let the tick eat up your profit? Kill him on the spot.

Instant Louse Killer

is guaranteed—your money back if it does not do as we claim.

It is a powder which may be used in *zero weather*, and in less time than it takes to prepare a dip. No slop, no muss, no danger. It is the formula of Dr. Hess (M D., D.V.S.) and destroys lice on horses and cattle, bugs on cucumbers, squash and melon vines, cabbage worms, rose slugs, etc. It is also a disinfectant and deodorizer. In cans with perforated top. Look for the word "Instant" on the can.

Sold on a written guarantee.

1 lb. 35c. 3 lbs. 85c.

If your dealer cannot supply you send your order to us.

MANUFACTURED BY
DR. HESS & CLARK,
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THE PETALUMA INCUBATOR CO.,
Petaluma, Cal.
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Ask Your Storekeeper for It

Approved by government and permitted in all official dippings. Send for booklet on dipping, free
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Auction

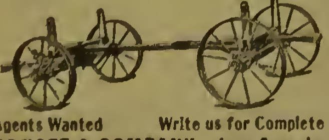
70 Cows, Horses, Hogs,
on the J. L. Palmer Ranch, at
COMPTON.
Take Long Beach Electric Cars to Compton.
TUESDAY, FEB. 25th—AT 10 A.M.

10 head choice milk cows, Jerseys, Holsteins and Durhams, fresh and coming fresh, young and in good condition, large milkers, all good dairy and family cows. 20 head well bred Holstein heifers. 10 head all-purpose horses. 30 head stock hogs, some well-bred sows with pigs.

This stock is removed to the Palmer Ranch for convenience of sale. Owner is retiring and closing out his entire herd, and every animal will positively go to the highest bidder without limit or reserve. TERMS: Six months' time will be given on cows and heifers with note and approved security. Liberal discount for cash. Hogs and horses sell for cash. FREE LUNCH AT NOON.

W. STEWART, Owner.
RHOADES & RHOADES, Aucrs.
Office, 830-832 S. Main St., Los Angeles.
Phones: F 1259, Main 1259.

PACIFIC ORCHARD TRUCK



3¼ x 10 Skeins
28 & 30" Wheels
4 & 5" Tires
Agents Wanted Write us for Complete Catalog
ARNOTT & COMPANY, Los Angeles, Cal.

When writing advertisers, mention Cultivator.

hind legs and a fourth went around her body. She was trussed up until she could hardly wink an eye.

"What on earth is all that for," I asked the man.

"'I am going to milk her, senor,'" he replied.

"And do you tie her up that way twice a day, taking half an hour each time?"

"Always, senor."

"But she doesn't look to me like a kicking cow."

"Perhaps she is not. I do not know."

"I cast off all the ropes," said the ex-soldier, "and then took the pail from him and sat down and milked. The cow stood quiet as a monument. During the performance a score or more of men and women had gathered around, and when it was over I said:

"There, now. But why tie your cows up to be milked?"

"Santa Maria!" gasped the old man, as he looked around on the crowd and crossed himself. "If we are not to tie up our cows to be milked, how long will it be before these Yankees will be telling us that it is not necessary to keep our eggs four weeks before eating?"

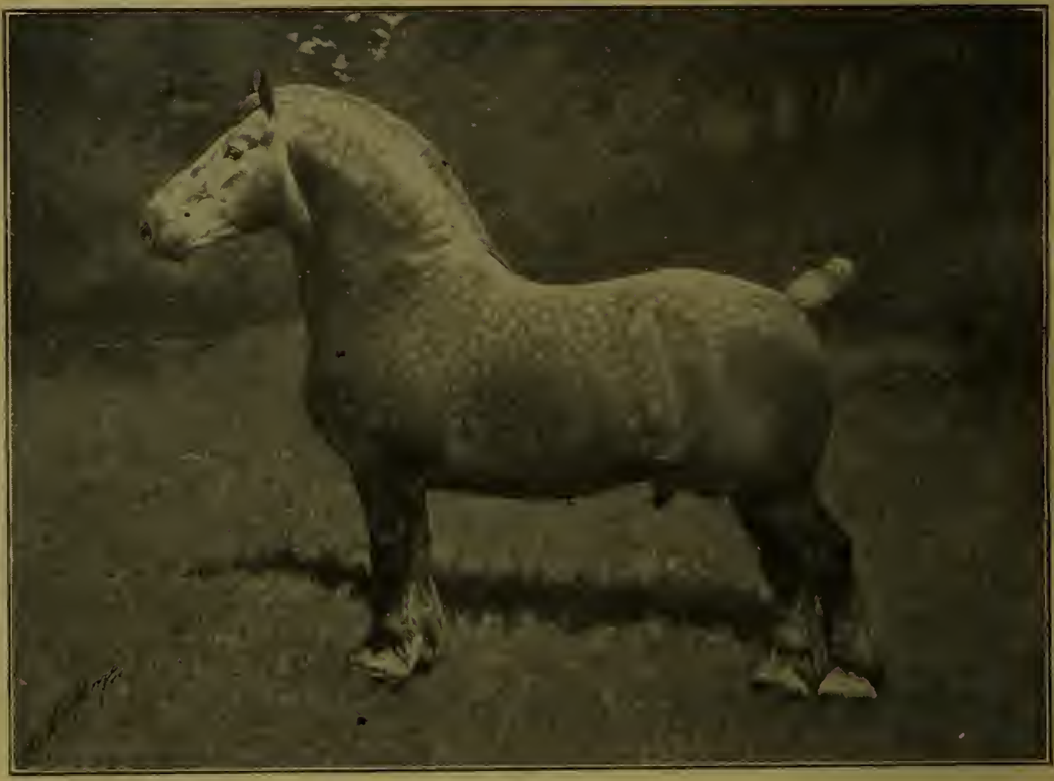
WHERE NATURE NEEDS HELP.

It is not impossible that, unassisted, nature might, in the course of some eons of time, have evolved as good a horse as some of those Percherons or German coach horses on exhibition out at the State fair, but it is tolerably certain that, since the dawn of creation, nature never did anything of the kind unassisted. Human intelligence having come to the aid of nature, some of the most splendid specimens of animal life imaginable have resulted. All honor to the breeders of fine animals! They are performing a great service to humanity, ever in need of the best, and they are honoring Almighty God in putting to use the sublime laws ordained.

And yet there are those who vainly cling to the superstition that any cow that will give milk is as good as another, unless it just happens to be otherwise; that a hen is a hen no matter what the breed, and that the cattle that it pays best to rear are those that grow lean and hollow, bone and gristle "rustling for themselves." It is the dread inertia of the non-evolutionary mass that sits like an incubus on the shoulders of the race and prevents it going forward. Near the close of the seventeenth century the English gentry conceived a passion for breeding better stock, and as a result of the impetus so given to intelligent breeding greater progress was made in two decades than had previously been made in four centuries. That opportunity is still open to those who will take advantage of it.

It costs no more to rear and sustain a cow that will pay for herself each year than it does to rear and sustain a cow that will eat her head off each year of her life. The difference between poverty and affluence in farming is the difference between compound-interest cattle, horses and hogs, and horses and cattle that eat like a mortgage and produce little but vexation of spirit.

For fifty years the tillers of the soil of this valley have been checking against the stored fertility of ages while depositing nothing to the credit of the fertility of that soil. If some of these checks have been returned branded "no funds," whose fault is it? With pump irrigation no longer an issue among intelligent men, with wornout wheat ranches planted to alfalfa, with cattle, horses and hogs to eat the alfalfa, the Sacramento farmer will return to the soil everything he takes from the soil, and so establish a credit balance that he can never exhaust, for he will be drawing against air and water, and these never grow less in quantity or suffer impairment in quality. That way prosperity lies prosperity that will grow less as feeds, ever extending, yet never c suming because always renewin Sacramento Union.



BELGIAN STALLION.

Perce, No. 2276, winner of first prize at Chicago International in 1906 and 1907; also winner of firsts at the American Royal Live Stock show, Kansas City, Mo., in 1906 and 1907. A typical high-grade Belgian. Property of J. Crouch & Son, Sacramento.

Warranted to give satisfaction.

GOMBAULT'S CAUSTIC BALSAM

A safe, speedy and positive cure for

Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a **HUMAN REMEDY** for **Rheumatism, Sprains, Sore Throat,** etc., it is invaluable.

Every bottle of **Caustic Balsam** sold is Warranted to give satisfaction. Price **$1.50** per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

Obtainable at All Druggists and General Dealers

Use
"Western" Condition Powders
for Horses and Cattle
The Best Tonic on Earth
Put up by 1-lb. Package, 25 cent
Western Wholesale Drug Co.
Los Angeles, Cal.

La Fayette Stock Farm
La Fayette, Ind.
The Largest Importers in America of
German Coach, Percheron and Belgian Stallions
Stock For Sale at Our Stables, State Fair Grounds
All Stock sold under a guarantee, Terms to suit buyers.
J. Crouch & Son
North Fort Worth, Texas
Sedalia, Mo.
Nashville, Tenn.
Sacramento, Cal.

ORCHARD PLANTING.

Continued from Page 193.

ive any specific figures calculated neet varying conditions; it will age, however, all the way from ıty-five to sixty dollars per acre.

hing of Beauty and a Joy.

ı experience covering nearly ıty-five years in practical orange lemon orcharding, coupled with ·ly a like period in the propagat- and growing of citrus trees for ting, has only strengthened me he opinion that orange and lemon ving, when the conditions of soil climate are congenial to the fruit, ot only one of the most profitable rsions of our horticultural de- pment, but also one of the most ·ing. A well cared for orange lemon grove is certainly a beauti- feature of the landscape. Thus, ıs culture is one of those rare binations of business and pleas- where utility and beauty go down asile of time hand in hand, and ›y is he who possesses a bearing ard, that by reason of its en- nment and care and attention it reecived, yields its owner a hand- e living and something for the erbial "Rainy Day," and at the e time gratifics his love for the tiful in nature, making his trees companions, affording a solace a joy for every day of the year.

NEFIT FROM COVER CROPS.

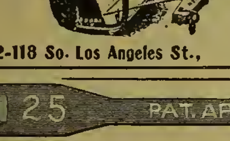
Continued from Page 190.

ng the solutions of fertilizer to nanufactured into starches and r and then sent back to the tree row its fruit; and I have to say ou that not one single leaf wilted hat twenty acres that year, and one irrigation during the sum- time was given to that twenty s for two years; and other pieces, situated, like treated, were test- he same way. A scientific gentle- was told that, and he thought it ›ssible, but he took the trouble o there and investigate the condi- s down thirteen feet in the soil, ng it and taking it to the labora- and estimating the quantity of er in that soil subject to the root em of the tree, and his decision : "Yes, you can do it; yes, you increase the absorptive and hold- power of your soil by filling it humus, so that in an occasion listress you may be able to save orchard without irrigation ugh a season."

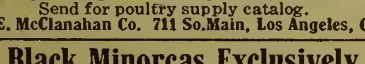
ıe power of absorbing water is t times greater in a humus soil ı in a soil without humus. To the best out of your soil you must friability, tilth. Take a cubic of soil. It presents but six sides he air root of the plant. But di- it up into as fine particles as you by proper cultivation and you find that there are three million s to the cubic inch which can be hed by the air root of the plant the fertilizer taken from it that ln the soil moisture. Take a c foot of soil and, if I mistake not, ave seen somewhere that when it ivided up into that fineness which can get by proper manipulation he soil it will present to the root em sixteen acres of surface. nk of it, that when you take that and divide it up it will spread r sixteen acres! I don't think I exaggerating. I tried to lay my d on the authority this afternoon. ere are some here who know and y can contradict me if it is not e.

To be continued next week.

Success Incubators
Buy direct of manufacturer—No agents, we pay freight
612 Egg Size Hot Water Incubator $40.
340 Egg Size $30 240 Egg Size $20 | 130 Egg Size $15
Send for catalogue of all sizes of incubators and brooders. They can't beat my incubators, nor my prices.
E. E. McClanahan
711 South Main Street LOS ANGELES, CAL.



FRESNO DRAG AND WHEEL SCRAPERS
We are headquarters. Write for Complete Catalog.
Agents Wanted
ARNOTT & COMPANY,
112-118 So. Los Angeles St., Los Angeles, Cal.



"Champion" Leg Bands 60c per 100, mailed free.
Send for poultry supply catalog.
E. E. McClanahan Co. 711 So. Main, Los Angeles, Cal

Black Minorcas Exclusively
"Birds That Lay and Win"
Winnings at Los Angeles, 1908: Cocks, 1, 2, 4, 5; Cockerels, 1, 2, 4, 5; Hens, 1, 2, 3, 5; Pullets, 1, 2, 3, 4, 5; Pens, 1, 2; Cup for highest scoring Minorca male in show. Stock and eggs for sale. Catalogue free.
H. A. WHEELER, Box 123, Lordsburg

MAN'S FOOD ASSURED.

One of the greatest problems which has in late years occupied the attention of scientists has been solved by the discovery of new deposits of nitrate of soda. "How can the exhausted fields and farms of the world be replenished with the nitrogen which alone can produce food for the race?" was the question. The finding of new deposits in Chile, covering a vast area is the answer.

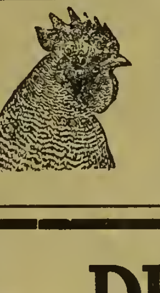
Nitrate of soda is not as visibly connected with the welfare of the race as sunshine, but it is almost as important an element in the development of the individual and the perpetuation of the race. Some scientists have gone so far as to compare the effects of the exhaustion of the nitrate beds with those which would follow upon the withdrawal of the sun from the earth. "No sunshine, no growth," says science. "Without nitrate of soda to fertilize the world's exhausted fields and farms, there will be a long series of constantly diminishing crops and a consequently dwindling, degenerating, starving and dying-out population," says agricultural chemistry.

The Chilean government for purposes of revenue, took charge of the vast nitrate deposits soon after their discovery. It has ever since not only controlled the known nitrate beds, but has systematically searched for others. Deposits of nitrate, of varying size, were constantly being discovered; and now comes the discoveries of nitrate of soda beds which will last not only hundreds of years, but longer. Two immense areas have only recently been discovered. Together they contain more than one billion tons of nitrate of soda.

Nitrate of soda is the world's leading fertilizer and it is gratifying to note that the American farmer may now secure unmeasured supplies of his best fertilizer—contrary to the general rule—at rates cheaper than ever before.

Barred and White Rocks
White Wyandottes and Beautiful Little Golden Sebright Bantams
If you want birds of the highest quality, bred for standard and utility, write your wants. I guarantee satisfaction.
D. T. Heimlich - Jacksonville, Ill.

The Inglewood Poultry Colony
Is the very best location for YOU if you are in the poultry business. Because you can make MORE MONEY out of poultry there than you can anywhere else in Southern California. Apply for particulars to
Inglewood Water Co., 349 Wilcox Bldg. Los Angeles



Starbuck's Barred Plymouth Rocks
We trap nest our hens. Why set from poor layers? Bird laying qualities are inherited the same as any other. This year we have discarded all old matings and have gone to the next generation. Cocks have 9 generations of 200 egg mothers. Hens all from 200 egg mothers and from cock with 6 generations of 200 egg mothers, and are layingfine. We have divided into pens according to the way they are showing up in six months laying. $2.50 for 13 eggs from first pen. $1.00 from 2nd. until they have time to make longer records. (Except from our one best, not for sale. We claim the world's Barred Rock, 6 months laying record for this one.) Do you wish to hear about our prize winning Buff Orpingtons and Silver Wyandottes? We have something to crow about. No Sunday sales or visitors. Wm Starbuck & Son. Fullerton

DEPOSIT MONEY
WITH SALT LAKE ROUTE AGENT
Bring Friends From the East
During March and April, Second Class tickets will be sold at very low rates from Eastern points to Southern California. For instance, from New York $55.00 and $58.00; from Chicago $38.00; St. Louis $35.50; Kansas City $30.00; Omaha $30.00; Minneapolis and St. Paul $36.75; Denver $30.00; Salt Lake City $30.00, and many other points at greatly reduced rates. If desired, tickets will be furnished at any point east or north of Salt Lake City, in the United States, Canada or Europe, if money for same be deposited with any agent of the Salt Lake Route. Los Angeles Offices are at 601 S. Spring St. and First St. Station.
For excellent service, beautiful scenery, through sleeping cars from Chicago, St. Louis, St. Paul, Kansas City, Omaha and Denver via Salt Lake City and the Short Line to Los Angeles your friends should travel
VIA SALT LAKE ROUTE

Of Course You Are Interested in Gas Engines
You would like to know how they are constructed, how to take care of them. You can't afford to be without our booklet, "THE GAS ENGINE AND HOW TO CARE FOR IT." Write for it and save yourself money. (Send five cents in stamps.)
Federal Gas Engine Co.
704 Union Trust Bldg. Los Angeles, California

Not Connected With Other Stores

Pease Bros. Methods of Selling Furniture

are sure to appeal to all who appreciate good qualitiees at the lowest possible price. There is a limit to the price range at which any good article can be sold. No store can reasonably sell under this price and cannot justly charge much more than this price. It has always been our policy to price our goods as low as it is possible to offer them.

But One Price for All and That Price is Right

Our carpets, rugs, draperlees and furniture are all sold under the same method and are marked in plain figures at the lowest possible selling price. There can be no deviation from this price or any special discounts.

If you consider for a moment you will see this is the only business method. You will see it is greatly to your advantage to buy under such conditions.

We have the largest and finest stock on the Coast. It is all dependable furniture from the foremost makers in the country.

PROMPT DELIVERY IN PERFECT CONDITION

Pease Bros. Furniture Co.

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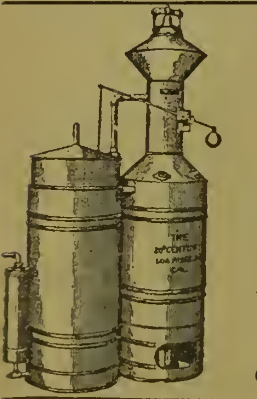
LOS ANGELES, CALIFORNIA



We can't explain it all to you here, but our New 1908 model is certainly a

Perfect Acetylene Generator

Why? There is no part of it that you can't see through the new port just opposite the feed, so you know just as much about it as we do.

1908 Model, 4 Sizes, now ready for delivery.

You'll be glad if you get one. Write us.

20th Century Light Co.

609 E. 7th St., Los Angeles, Cal.

Woodbury Business College

809 SOUTH HILL STREET, LOS ANGELES

Strong, original, practical, SUCCESSFUL. Belongs to no "chain" or trust, class or clan—absolute MERIT its only alliance. Concentrated, enthusiastic, COMPLETE. A school of FORCE, CHARACTER, and INFLUENCE. Prestige of long experience, thousands of graduates—every one a WOODBURY testimonial and a vital force in the world. "BETTERNESS" its distinctive quality. "THE SUCCESS OF THE STUDENT" its slogan. Entire year—begin when ready. POSITIONS SECURED. Write for "CATALOGUE W"—it is illustrated, interesting, instructive, INSPIRING.

Largest National Bank West of Denver and South of San Francisco

First National Bank

of Los Angeles, California

United States Depository for Government Funds

TOTAL RESOURCES, $20,000,000

ADDITIONAL ASSETS—One Million Five Hundred Thousand Dollars invested in the stock of the Los Angeles Trust Company and the Metropolitan Bank and Trust Co., and held by the officers of the First National Bank, as Trustees, in the interest of the shareholders of that Bank.

We are prepared to extend to the small depositor the same personal and careful attention that we do to our largest accounts.

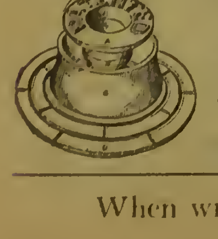
IN THE CENTER OF THE CITY

SECURITY SAVINGS BANK

Security Building Los Angeles

The Oldest and Largest in Southwest

Call in and inspect our fine Banking and Safe Deposit Department. Best in the West.



The Star Oil-Gas Burner

The Star only Oil-Gas Burner is a simple, safe and economical device for taking the place of wood and coal in all cook stoves, ranges, heaters or furnaces, without more soot or smoke than from a wood fire. The only Oil-Gas Burner that will not clog.

NO WORK WORRY DIRT DANGER

FOR FURTHER INFORMATION CALL OR WRITE

International Invention Co. 508 Mason Bldg., Fourth and Broadway Los Angeles, California

Household Departmen

PROGRESS.

Near the town of Up-against-it, in
the land of Root-or-die,
We have found our very finest inspiration, you and I.
Toiling up the hill called Have-to,
with Compulsion for a guide,
We have made the sort of effort that
was never yet denied.
In the way were Can't and Couldn't,
with their brother, What's-the-use.
While our dearest foe, Born-weary,
seized with joy each poor excuse.
Yet behind us, unrelenting, drove our
heartless master, Must,
And our feet essayed no lagging,
spite of hill or heat or dust.
It was there we grew the sinews for
the struggle—you and I—
Near the town of Up-against-it, in
the land of Root-or-die.

Near that village, Up-against-it, in
the land of Root-or-die,
We discovered possibilities undreamed of—you and I.
Were there heartaches in that journey? Little, then, our master
cared,
As along that stony highway under
whip and spur we fared.
Bread-and-butter trudged beside us,
with a keen and ruthless goad,
That should quicken halting footsteps if we loitered on the road.
Pride and Spunk, two comely sisters,
lured us on with myriad wiles—
All the master's welts were vainless
as we feasted on their smiles.
So our hearts grew strong to conquer,
as we plodded—you and I—
Past the hamlet, Up-against-it, in the
land of Root-or-die.

—Strickland W. Gillilan in Success.

MY ANGEL.

YOU need not laugh, reader. If you could have seen her, you would have used the same exalted epithet in describing her; or rather, if you had been as desperately in love with her as I was from the very first words of the introduction that accorded me the privilege of basking in her smiles.

It is useless to attempt to describe her in detail—poets, painters and authors have exhausted all adjectives and similes with regard to feminine lovliness. I can only say that Gladys Seymour was to me an epitome of all that was beautiful, graceful, fascinating and altogether irresitible to the favored mortal who is, or has been, in love, further detail would be suprefluous. In view of all this, however, I ask my reader to consider what a fortunate, envied mortal I was when, at the end of six months' ardent devotion at the shrine of my divinity, I took—metaphorically—my courage in one hand and my heart in the other, offered myself and all I possesed, and was accepted. The remainder of that evening flew by like enchantment; I seemed to be walking or rather dancing on air; and when I finally bade her good night and wended my way to my own home, it was in a state of delirious happiness that must be felt to be appreciated.

Two blissful months followed. Every available moment that I could spare from business found me at her side, breathing into her ear the ardent expressions of my devotion, calling her my queen, my angel, and endowing her with all the virtues and perfections that have been possessed by mortals since the world began; and when compelled to be absent from her for any considerable period, I would commit my sentiments to writing and send them by post. During those two months my rapturous encomiums were received by her with a sweetness and serenity which proved how well they were bestowe and every one of my letters w promptly answered.

At the end of that brief period, change sudden, sharp and cruel ca over the spirit of my dream. O evening—as usual since my eng ment to Gladys—having left my bu ness at an early hour, I wended n way to my lady love's residenc feasting my imagination with antic pations of the welcome I was sure receive, and the delightful time should spend in her society.

Ringing the bell and being i formed that she was in the parlor, hastened thither with a beating hear but as I opened the door and steppe into the room, what was my su prise, consternation and alarm wh instead of advancing to meet me wit hand outstretched and her lovely fa animated with joyous welcome, sl retained her seat, with her han folded listlessly in her lap, and an e pression on her face, which, if sl had been an ordinary, common mo tal, I should have called a frown.

For a moment I stood rooted to t spot by this unexpected and myst ous reception; then coming quickly her side, I sat down and seized h hands in mine.

"My love! My peerless Glady What has happened? Are you ill—il and I in ignorance of it?"

If I had been surprised before, ho was my consternation increased whe she pulled her hands away from min and answered pettishliy:

"Ill? Of course not! What mak you suppose anything so sillly?"

"How could I think otherwi when for the first time since we b came engaged you have failed to c forward and welcome me, my an I retorted.

"Oh, well, I was tired. And not see any necessity for rushing ward as if I had never seen you fore. I begin to be tolerably well quainted with you by this time, know."

Could I believe my ears! Howev I commanded my feelings as bes could, while I said anxiously:

"Tired, my peerless one? W has occasioned so distressing a cat rophe?"

"Don't use such extravagant pressions!" objected Gladys cro

"Fatigue is quite a commonp sensation, I am sure. I have been riding all the afternoon with Mr. S ers."

"With Mr. Sellers!" I echoed, f ing as if a bombshell had explo beneath my feet. Sellers had b one of my most formidable riv and over whom I had felt very e tant. "Out riding with him?"

"Most assuredly," was the cool r ply. "What are you looking so tonished about?"

"My dearest love!" I said, b ning to feel considerably perturb and not a little hurt, "you sure would not be willing to cause me t wretchedness, in the present state our relations, of encouraging the a tentions of—"

"Fiddlesticks!" interrupted Glady "Mr. Sellers and papa are old friend and George and I have known eac other since we were children. I don see any reason for treating him like stranger. By the way, he will be the hop to-morrow night, and I hav

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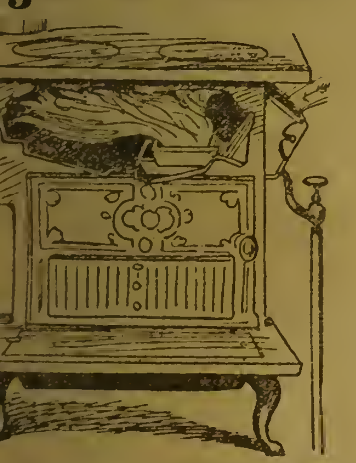

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promised him three dances."

I shut my eyes and groaned. Three dances! I must be compelled to stand and witness my affianced being whirled about the room in the arms of another man! Visions of pistols and coffee floated before my disordered brain; then recovering in some measure my normal condition, I endeavored to expostulate with my angel, but in vain; and I was obliged at last to desist, and finally took my leave, exclaiming after the fashion of the little old apple-woman, "This surely can't be I!"

When I called the next evening, however, to take Gladys to the hop, she looked so entrancing in her ball costume, and received me so graciously, that I was more than ever convinced yesterday's experience was a delusion, and wisely forebore any reference to it. I was quickly brought to my senses, however, when we reached the place of the festivities; for as I entered the ballroom, proud and happy, with my angel on my arm, we were met by Mr. Sellers, who immediately wrote down his name on her tablets for two waltzes and a quadrille. That was quite enough to spoil my enjoyment for the evening; moreover, Mr. Sellers was not the only one who obtained the privilege of dancing with her. Heretofore at these festivities I had enjoyed the exclusive right to her society; now I could only look on while her bright smiles and gracious attentions were showered upon others, and she seemed to quite forget that I was present, or had any special claim upon her. She did not absolutely ignore me, however; and as with my arms around her I whirled down the room in the last and best waltz of the evening, realizing that all this loveliness was mine, I grew almost happy again. But when I had seen her home, and in the solitude of my own room was reviewing the events of the evening, recalling the bright glances and smiles I had only shared with others instead of monopolizing as formerly, I felt the altitude to which my enraptured fancy had raised her diminishing, and my extravagant estimate of her angelic qualities decidedly shaken. And when next day, from force of habit, I wrote my customary letter, I found myself insensibly dropping the extravagant—I could see, now, that they were extravagant—expressions with which I had been wont to clothe my sentiments.

Several weeks passed under this new regime, and although so far from alienating my affections, it increased them tenfold, my idolatry of some matchless divinity changed to a deep affection for one who, notwithstanding, I began to recognize as a really infallible mortal. Still, as I found her almost invariably surrounded by visitors, whose society apparently afforded her as much entertainment as mine, I resolved to come to a distinct understanding as to our future relations. Making my visit at an earlier hour than usual, I was relieved to learn that she was at home alone. Stepping into the parlor, I sent up my name, and with a nervously palpitating heart, awaited her coming. When the door opened I rose to meet her, grave and quiet.

"Oh, it is you, Arthur!" she exclaimed, with an accent of surprise, as she extended her hand. "I could not think who it was come for such an early call."

"Yes, it is I, Gladys."

I had almost unconsciously dropped, of late, all the extravagant similes and endearments with which I had been accustomed to embellish my speech when with her; and, moreover, contented myself, on this occasion with a quiet pressure of the warm little hand in mine, instead of raising it dramatically to my lips, as I would have done a few weeks earlier.

"I came early on purpose to see you upon a matter very serious and important," I said.

"Serious and important!" Her pretty face was very grave and demure as she echoed my words. "Well, sit down, and let us hear what it is."

"Gladys," I began, trying to speak very bravely and sternly. "Some months ago I had the happiness to know that I stood first in your regard, and received your promise to become my wife. Have you grown to think less of me since then? Do you desire to—to—"

"To what?" she asked, with an air of innocent wonder, that made me want to kiss and shake her at the same moment.

"To cancel our engagement!" I finished desperately.

"Why, what makes you imagine that?" she exclaimed, opening her blue eyes very wide.

"A great many things, Gladys." I detailed the events of the past few weeks. "If I have so signally failed to realize your expectations, your ideal, perhaps I had better—"

"Give me up?" she suggested, with an arch smile.

"It would almost kill me to do so!" I groaned. "But it seems the only alternative left, from present indications."

Gladys cast one glance at my perturbed face, and then broke into a peal of merry laughter.

"So you would rather not give me up, eh?" Well, now, just let me tell you something. You have been canonizing me to a greater extent than I deserve or could possibly acquire, and I wanted to convince you that I was only a very ordinary mortal, and just as likely to do all sorts of outrageous things as my sister sinners. Now, if you will promise not to think me an angel or anything so superlatively supernatural, you'll suit me splendidly, and we'll get along ever so much better than we could possiblly do otherwise. What do you say?"

What could I say? I was enlightened now with a vengeance, and could only sit and stare at her.

"You know very well that I love you, you dear old stupid!" said Gladys, sitting down beside me, and slipping her hand coaxingly into mine. "But the case was growing desperate, and I could think of no other remedy. Will you take me just as I am—no worse, no better—and not cumber me with a list of poetical, but quite impossible perfections?"

"I'll take you on any terms, and be thankful for the privilege!" I exclaimed, catching her in my arms with a hug that compensated for all I had suffered. "Only before I let you go, you must set our wedding day."

She did after some coquettish demur; and when, on that happy occasion she raised her lips for my bridal kiss, she whispered rogouishly:

"Now, Arthur, remember I'm not to be considered an angel, or anything of that sort!"

"No, you little witch!" I answered, drawing her close. "Not an angel, I admit; but next door to one!"—Journal of Agriculture.

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The results have exceeded our expectations. The liner we inserted sold nearly one hundred cows, heifers and bulls. Most of these were for our neighbors.

Yours truly, Tribble Bros.

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EGGS FROM MY PRIZE WINNING BARred Rocks; won all firsts, all seconds but one, and all specials on Barred Rocks at L. A. C. P. A. Show, 1907. Eggs from best pens, $3 per 15; $12.50 per 100. Stock for sale. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

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FERTILIZER SALE—SPECIAL, 3000 TONS of fine ground animal tankage in bags. [illegible] to produce both fruit and [illegible] ght at panic prices. Carrol B. Smith, REDLANDS, CAL.

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FOR SALE—MAMMOTH BRONZE TURkey hens, $2.00 each if bought in lots of ten. Address, Mrs. W. B. RICHARDS, Holtville, Cal.

WHITE PLYMOUTH ROCK SILVER CUP winners at the big Chutes Park show, January 6th to 12th, 1908. Eggs, $2.50 and $2.00 per 13. Average score of first pen 95½. ADAM BANKIN, 271 Isabel St., Los Angeles, Cal.

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INDIAN RUNNER DUCKS AND BLACK Langshan fowls. Eggs and stock for sale. Large, fine stock, with good range and strong fertility. CLYDE J. MOSS, Corona, Cal.

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BERRY PLANTS.

SIX HUNDRED THOUSAND STRAWBERry plants for sale—Klondike, Excelsior, Enhance A1 and Texas, $2.00 per thousand; Arizona, $3.00 per thousand, f. o. b. Gardena, (after February 10th all plants will be $1.00 per thousand more.) Address D. P. DUNCAN, Gardena, Cal.

CLEARANCE SALE OF BERRY PLANTS—Himalaya Giants $3.50 per 100; $25 per 1000. Lucretia Dewberries $1.50 per 100; $10 per 1000. All good, strong plants. R. J. HUNTER, Gridley, Cal.

TWENTY-FIVE EACH OF LUCRETIA dewberry, Cuthbert raspberry, Mammoth blackberry, Logan berry and 250 strawberry plants, also several kinds of berries and an acacia tree all prepaid for $2.50; strawberry plants at $3.00 per 1000 prepaid. Larger lots at $2.75. TRIBBLE BROS., Elk Grove, Cal.

FOR SALE—MAMMOTH BLACKBERRY, 100, $3; 1000, $25; Himalaya Giant blackberry, 100, $4.50; 1000, $35. Express prepaid to California points, ADELBERT COOLEY, Laton, Cal.

WANTED—ONE-YEAR OLD LOGANBERry plants. Address P. O. BOX 2697, Fresno, California.

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The Produce Marke

Los Angeles Markets

LOS ANGELES, Feb. 19, 1908.

Butter.

Quotations on butter remain as last week, but receipts are heavy and a lower price is promised before the week's end. The rains have affected the feed is one reason for the greater receipts. Tuesday's receipts amounted to 25,000 pounds.

Creamery ex per roll	67½
Firsts	55
Dairy	45
Cooking	42@47
Eastern	55
"Butterine"	15@20

Cheese.

Cal Young America per lb	20½
Hand	20½
California Anchor	19
Northern fresh	17
Eastern singles	19
Imported Swiss	32
Tulare flats	18½
Domestic Swiss	21@22
Oregon	18

Eggs and Poultry.

Eggs have dropped a couple of cents again, though at present quotations market is firm. Some dealers claim to be selling at a cent above the market. Eastern eggs are practically out of market.

Eggs local candled	24@25
Eggs case count	23
Eastern storage	17@18
Hens per lb	14@15
Young roosters per lb	15
Fryers	18@20
Broilers per lb	21@22
Roasters	15
Old roosters	8
Turkeys	15
Geese	13
Ducks	14
Squabs	1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds	6
Prime steers	4½
Heifers	4
Calves per lb	4½@5
Sheep ewes per head	4.75
Lambs per head	3.75@4.25
Wethers	5.50

Potatoes.

Highlands	1.00@1.15
Early Rose	1.75@1.95
Salinas	1.75@1.85
Sweet potatoes per sack	3.20
Sweets Northern	3.00@3.25
Oregons	1.50
Idaho	1.25
White Rose	1.65

Onions.

Australian Browns	3.00@3.50
Oregons	3.00
Minnesota	3.00@3.25
Garlic	10
Ohio	3.25

Vegetables.

Artichoke per doz	65@1.00
do Jerusalem box	75
Asparagus per lb	65
Beets per doz	40
Bell peppers per lb	15@18
Beans limas per lb	10@12
Beans green	12½15
Beans Yellow	5@8
Brussels sprotus per lb	7½@9
Cabbage sack	15@25
Celery per doz	35@50
Chili peppers per lb	5@7½
Chives per doz	1.25
Cucumbers per doz	70@2.50
Cauliflower	40
Carrots per doz	30
Egg plant	8@10
Green onions doz bunches	20@30
Hubbard squash per lb	1@1½
Lettuce per crate	75@85
Mushrooms per basket	1.75
Pie Pumpkins	1½
Peas sugar per lb	6@8
Parsley	30
Parsnips	35@40
Rhubarb per box	1.00@1.25

MACHINERY.

FOR SALE—22-H. P. FOOS DISTILLATE engine just overhauled, like new. Can be bought cheap. 943 N. MAIN ST., Los Angeles, Cal.

FOR SALE—CHEAP FOR CASH—6-H. P. vertical Fairbanks-Morse gasoline in perfect running order. N.W. cor MAIN and BRUNO STS., Los Angeles, Cal.

ARTICHOKES.

FOR SALE—JERUSALUM ARTICHOKES—The great winter hog feed. Address FANCHER CREEK NURSERIES, Fresno, California.

MELON SEED.

NO BETTER SEED GROWN THAN I OFfer you. Chilian watermelon seed white or red, 60c per pound; pineapple cantaloupe seed, 80c per pound by express. Mail fifteen cents extra; supply limited. S. FAIRBURN, Burbank, Cal.

Radishes per doz	
Salsify	
Spinach per doz	
Squash box	1
Turnips doz bunches	
Tomatoes per box	1.2

Citrus Fruits.

Navels fy	1.6
Navels ch	1.2
Tangerines	
Culls	
Grapefruit seedless	2.5
Grapefruit seedlings	1.75
Lemons fancy	1.2
Lemons choice	1.0

Fresh Fruits.

Bellefleurs	2.00
Baldwins	1.50
Pippins 4-tier	1.50
W W Pearmains	2.00
Colorado Jonathans	
Cal Ben Davis	1.75
Guavas	
Loquats per lb	
Winter Nellis per lb	
Persimmons	
Quinces	
Raspberries	
Strawberries	
Extra fancy	

Dried Fruits.

Apricots	1
Evap apples fy per lb	1
Figs loose	
Peaches	11½
Pears	
Nectarines	
Prunes	3½

Beans Dried.

Limas per ctl	
Pink No 1	
Lady Washington	3.85
Small White	3.75
Black Eyes	4.50
Garvanzas	5.25
Lentils	12

Nuts.

Almonds per lb	
Pecans polished	1
Peanuts Virgina	
Peanuts California	
Walnuts No 1 SS	
Walnuts No 1 H S	1

Honey.

Extracted Water White	7
Comb W W	1

Hay.

Barley No 1	14.00@
Barley No 2	11.00@
Alfalfa northern per ton	
Alfalfa new local	15.00@
Plain Oat No 1 new	
Wheat No 1	
Wheat No 2	

Grain.

Wholesale selling price f. o. b., Angeles.

Wheat new per ctl	
Wheat in 100-lb. sacks	
Barley	
Corn Eastern sacked	
White oats	

Feed Stuff.

Selling price F. O. B. Los Ang as follows:

Cracked corn	
Shorts	60@
Bran	
Oil cake meal	
Feed meal	
Rolled barley	

San Francisc Markets

SAN FRANCISCO, Feb. 18, 19

Butter.

While quotations on butter are cents, it is maintained that every sold has been at least a cent a quotations. And at that quick are made.

California extras per lb	
California firsts	
California seconds	
Eastern extras	
Storage Cal ex	

Cheese.

California young American fy	1
California flats fy	1
Eastern fy	1
Oregon fancy	1

Eggs and Poultry.

Eggs have again sagged, dropp over 5 cents during the week. The rivals are very liberal, which condit promises to continue. Storage is off the market.

Fresh ranch eggs	2
Eggs firsts per doz	
Eggs second per doz	1
Hens per doz	4.50@6
Hens extra	6.00@7
Young roosters	6.00@
Old roosters	4.00@4
Fryers per doz	5.00@6
Broilers per doz	4.00@5
Geese per pair	2.00@2

young	4.00@5.00
s per lb	15@17
	1.00@1.25

Live Stock.

No 1	8½@9
ond quality	7½@8
ows and heifers	6½@7
0 to 200 lbs	5¾@6
00 to 300 lbs	5½
per lb	4@5½
	6½@7
s No 1	5½@6
No 1	5@5½

Potatoes.

teen cars of potatoes arrived
nday, but even that large quan-
l not seriously affect the market
fairly good condition prevails.
ock in hand generally is is large.

Whites	60@75
Burbanks	75@1.00
cs	1.00@1.25
Rose	1.10@1.30
Reds	1.35@1.40
Burbanks	75@1.00
per crate	2.75@2.85

Vegetables.

kes Jerusalem per box	75
gus per lb	35
per crate	1.00@1.25
bers per doz	75@1.25
eppers per lb	4@6
ppers per lb	12½@15
Limas	12@15
lant per lb	10@12½
peas per lb	8½@10
per box	50@1.25
fat squash per sack	60@75
oms	35@1.00
rd squash per sack	60@80
rb per box	1.25@1.50
es local	1.25@2.00
beans	12½
	5@7

Onions.

Danvers	2.50@2.65
cs	2.50@2.75
	2.50@2.65

Citrus Fruits.

fy	2.50
ch	1.25@2.25
ruit seedless	2.50@3.00
s	1.50@2.50
	3.00@4.00

Fresh Fruits.

ns	1.65@2.00
berg	1.75@2.00
winter Nellis	2.00@2.50
ranates per box	1.00@2.50
s per box	1.00@1.25
erries per ½ crate	1,25@1.50

Dried Fruits.

(evap.)	6½@8
ts per lb new	15@19
hite	3½@5
ines	10@13
pitted	12@15
es	9@11
	8½@@10½
4 size bag basis	3¼@4

Beans Dried.

	4.75@4.90
	3.15@3.25
white	3.35@3.50
white	3.00@3 10
Washington	3.45@3.50
Eyes	3.50@3.75
Kidneys	3.25@3.50
nzas	4.00@4.25
	3.15@3.25
beans	2.25@2.40

Hops.

per lb	4@7
old fancy	1½@2½

Nuts.

rcil	13½@14
ius Ultra	12½
its No 1	13@13½
heils	12@12½

Honey.

white comb	16@17
r	12@15
cted	7½@8
ax No. 1 per lb	26@27
ax No. 2 per lb	23@25

Hay.

ers & Co. say:
the face of a very discouraging
narket, shipments of hay have
increased during the past week,
arrivals amounting to 3380 tons in
arison with 2920 tons last week
130 tons for the wek preceding
The only feature of the market
e moment is its dulness, for
is quiet and nothing has devel-
in the way of an increased de-
to afford any stimulus to the
et. We have had quite a period
y, cold north winds, which is
ng some little apprehension
gst the farmers, but as no dam-
as been done as yet the market
een in no way affected.
S. F. hay market stands a bit
e when being considered with
lines of produce, for prices are
lished here from day to day ac-
ng to each day's supply and ut-
regardless of crop prospects or
ry stocks. When the daily sup-
does not equal the demand, either
use of an unusual consumption of
here or the general holding back
ocks by those who fear a crop
re, then we have an interesting
et here and improved prices. The
market is peculiarly sensitive to weather conditions and trade outlook, but hay is regulated on its own peculiar day by day basis.

Merchants in all lines of trade in S. F. are complaining of lack of business, so very little of interest can be reported anywhere. With the renewal of loaning operations on the part of our Savings Banks, which it is anticipated will be in effect within the next 30 days, all trades should be stimulated, and it is hoped that then the hay market will share in the general improvement of conditions.

Choice wheat hay	15.00@16.50
Good wheat hay	14.00@15.00
Other grades same	11.00@14.00
Wheat & oat	10.00@15.00
Tame oat	10.00@14.50
Wild oat	9.00@12.50
Stock hay	7.50@@9.50
Alfaifa	9.00@13.50
Straw per bale	50@.90

Grain.

Wheat No 1	1.57½1.60
Barley No 1	1.37½@1.40
Corn large yellow	1.60@1.65
Oats white	1.52@1.57½
Oats red	1.70@1.75

Feed Stuff.

Bran per ton	29.00@30.00
Feed cornmeal per ton	35.00@37.00
Cracked corn per ton	36.00@38.00
Rolled barley per ton	30.00@32.50
Oil cake meal per ton	38.50@39.00
Cocoanut caks per ton	26.00@27.00
Middlings	32.00@35.00

Citrus Market

LOS ANGELES, Feb. 19, 1908.

The tone of the orange market is somewhat easier. Eastern weather conditions are not favorable to handling the fruit and the "second crop" Floridas are something of a factor. But as the percentage already shipped is much greater than last year no concern is felt.

The quality is unusually good, though occasionally a "puff" has been found and some fear that early puffing may follow.

Lemons are also easier, partly because of weather conditions and partly because of large receipts of foreigns. It is thought that the next 30 days will see this large stock reduced and prices normal.

Shipments.

Shipments of citrus fruits to date are 7930 cars, of which 1260 were lemons. Last season same date 6548 cars, of which 814 were lemons.

NEW YORK, Feb. 17.—Thirty navels, three lemons, two mixed, one budded, one California Bright sold. Navels easier, slightlly lower. Large portion of offering spotted and stained. Lemons in good demand. Weather clear and favorable.

NAVELS—	
Orchard Nat O Co	3.10
Standard Nat O Co	2.35
Rose Ti Red O Gr Assn	2.45
Clover Ti Red O Gr Assn	2.30
Sunshine Ti J F Bowen	2.25
Rialto Girl Grs' Ft Co	2.30
Rialto Girl Grs' Ft Co	2.20
Whittier W F Whittier	2.60
Whittier W F Whittier	2.35
Old Mission C C Chapman	2.75
Old Mission C C Chapman	2.30
West Highland Grs' Ft Co	2.25
Pointer ACG Ft Ex	2.25
Homer Ti Q C Ft Ex	2.35
Dan Patch S B Ft Ex	2.35
Thistle S B Ft Ex	2.25
Pointer ACG Ft Ex	2.25
Quail O K Ft Ex	2.10
Chinook Hawarden Cit Ft Assn	2.35
Independent Grs' Ft Co	2.50
W T Michael	2.45
Independent Grs' Ft Co	2.90
TANGERINES—	
Dancey ?	1.40
Stag ACG Ft Ex	1.60
A J H Cal Cit U	1.25
Hollywreath Cal Cit U	1.05

PHILADELPHIA, Feb. 17.—Four cars navels, one car mixed and two cars lemons sold. Weather clear and cold. Market steady. Four thousand boxes Floridas sold. Market steady on Floridas.

NAVELS—	
Red Globe Riv Ft Ex Riv	2.22
Hunter ACG Ft Ex Carter Oak	1.96
Stag ACG Ft Ex Glendora	2.60
W Highland Cleghorn Bros	2.26
Stag Tangerin ½ ACG Ft Ex Glen	1,75
Pointer ACG Ft Ex Carter Oak	2.13
Lochinvar R H Ft Ex E High	2.26
Pointer ACG Ft Ex Glendora	2.31
W Highland Clcghorn Bros	2.20
LEMONS—	
Watchumma TCC Ft Ex Lemonc	2.38
Lemoncove TCC Ft Ex Lcmonc	2.27
Visalia TCC Ft Ex Lemoncove	2.89
Tulare TCC Ft Ex Lemoncove	2.10

BOSTON, Feb. 17.—Nineteen cars sold; twenty-six on track. Weather favorable; market doing better on good fruit.

NAVELS—	
Pointer ACG Ex Lateens S	1.80
Pocohantas TCC Ex Zante	1.90
Pine Cone S B Ft Ex High	2.50
Lincoln A H Ft Ex Casa Blanca	2.20
Pine Cone S B Ft Ex High	2.55
Orchard Nat O Co	3.20
Gold Buckle R H Ft Ex High	2.55
Pilgrim R J Richardson	2.75
Rose Red O Gr Assn	2.40
Rialto Girl Grs Ft Co	2.40
Rialto Girl Grs Ft Co	2.35
Independent Grs Ft Co	2.15
Cactus High Ft Gr Assn	1.55
Lincoln AH Ft Ex Casa Blanca	2.30
Hiawatha TCC Ft Ex ZZante	1.70
Thistle S B Ft Ex High	2.10
Navajo A H Ft Ex Casa Blanca	1.75
Cosmos S B Ft Ex Yerkes	2.30
Lochinvar R H Ft Ex High	2.30
Orchard St Nat O Co	2.80
Crafton Red O Gr Assn	2.55
Uroducer Red O Pack Co	2.40
W Highland Cleghorn Bros	2.25
Highland High Ft Gr. Assn	1.75
LEMONS—	
Rossmoyne E M Ross	2.45
Camel Q C Ft Ex Corona	2.60
Coral S B Ft Ex Yerkes S	2.00
Homer Q C Ft Ex Corona	2.85
Canna S B Ft Ex Yerkes S	2.50

CLEVELAND, Feb. 17.—Market is steady. Weather cold. Five cars sold. Seven cars on track.

NAVELS—	
Golden Flower Red O G Assn	2.30
Coral S B Ft Ex Yerkes	1.95
Carrier S BFt Ex Yerkes	2.10
Pointer ACG Ft Ex Glendora	2.25
Cosmos SB Ft Ex Yerkes	2.20
Pinecone S B Ft Ex High	2.30
Stag S B Ft Ex Glendora	2.46
Stag boxes Tangerines	2.70
LEMONS—	
Whittier S T Ft Ex Whit	2.45
Stag Grapefruit ACG Ft Ex	1.65
Pico S T Ft Ex Whit	2.35

ST. LOUIS, Feb. 17.—Eight cars sold. Market strong. Weather favorable. Six cars on track. Floridas sold $1.90 to $2.35.

NAVELS—	
Red Globe Riv Ft Ex Riv	2.15
Golden Rule Riv Ft Ex Riv	2.25
LEMONS—	
Planet S S Ft Ex Orange	2.00
Searchlight S S Ft Ex Orange	1.75

PITTSBURG, Fcb 17.—Market is firm. It is snowing.

NAVELS—	
Golden Flower Rcd O G Assn	2.45
Iroquois Red O G Assn	2.15
Ibex S T Ft Ex Maderia	2.00
Palm Tree A H Ft Ex Arlington	2.10
Violet D MFt Ex Duarte	2.15
Pointer A C G Ex Lateen S	2.10
Cosmos S B Ft Ex Yerkes S	2.25
Yuletide Red Mut Or Co	2.30
Golden Sceptre Rialto O Co	2.25
Stanard S T Ft Ex Maderia	1.90
Cavalier A H Ft Ex Arlington	1.95
Iris D M Ft Ex Duarte	2.30
Jasmine D M Ft Ex Duarte	2.05
Pride of California Riv Ft Ex Riv	1.95
Hunter ACG Ex Lateen S	2.00
Coral S B Ft Ex Yerkes S	2.10
LEMONS—	
Circus	2.20

NEW YORK, Feb. 14.—Seventeen

Crafton Red G O Assn	$2.30
Fountain F H Speich & Co	2.20
Our popular F H Speich & Co	2.00
Sweetheart Highgrove Ft Ex	2.80
Eable Highgrove Ft Ex	2.45
Blue C ACG Ft Ex	2.30

A RELIABLE CONCERN.

A cheap horse is liable to be a poor one, and the same is true, even more liable to be true, with nursery stock. The Placer Nurseries, located at Newcastle, California, of which Silva and Bergtholdt Company are the proprietors, believe in placing only the kind which will be a credit to their established reputation. Messrs. Silva & Bergtholdt have sold deciduous trees from these nurseries for many years, and this year are offering an exceptionally fine stock of strong, thrifty, well rooted trees. They informed a Cultivator representative recently that the year appears to promise extensive planting, and the choice trees are being rapidly picked up in all nurseries of the State. It would surely be advisable for Cultivator readers who contemplate planting deciduous trees this season to get busy at once and secure their stock. We believe there will be no more reliable place to secure these trees than the above mentioned nurseries. On another page may be seen a list of many of the valuable offerings which the Placer Nurseries have for this season.

West Coast Cresol Dip

Strongest and most effective Germ Destroyer, Insecticide and disinfectant. Made of Coal Tar Creosote Oil. Great caution must be exercised in using Carbolic Dips and those that contain Petroleum oils. Reports in 1905 from Wyoming show that many sheep died on account of dipping in petroleum. Sulphur-Lime dips impair the quality of wool on sheep, and sometimes blind them. Tobacco dips very often sicken sheep. And none of these dips can compare in effectiveness with Cresol Dips. These, while being most effective, are perfectly harmless. Wool is improved by their use, as it not only cleanses the wool but leaves no stain and gives it a soft texture.

But Cresol Dips differ very much. A Coal Tar Dip depends for its activity almost entirely upon the Cresylic Acid it contains. West Coast Dip is guaranteed to be made from Coal Tar Creosote Oil containing 25 per cent Cresylic Acid. Most dips sold in the United States are made from domestic creosote oils, which run about one-half the strength of imported oil. Permission was given by the U. S. Dept. of Agriculture to use our Dip for the treatment of sheep scab in the proportion of one part Dip to 67 parts water. This is the highest dilution we have ever heard of being permitted by the Department. When thus diluted it costs but a trifle.

For sale by many dealers. If yours does not keep it, send direct to us for trial offer, "special price and freight prepaid."

West Coast Mill
818-826 San Fernando Street
(Through to Alameda Street)
LOS ANGELES CALIFORNIA

Milking Machines

that satisfy both the cow and the man are found in

Mehring's Foot Power Cow Milker

which have done successful work for six years in New York and two years on this coast, and, in fact, are doing practically the same work as some "power" machines costing six or seven times as much.

A. F. Steiner & Co.,
2408 Grove Street, Berkeley, California

O. J. Weber Co., 555-557 So. Los Angeles St., Los Angeles, California, Distributing Agents for Southern California

Veterinary Instruments, Black Leg and Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Here's Your Chance

To buy that little Engine you've always wanted for the ranch.

Peerless Engines

3-H. P., $100
5-H. P., $170
6-H. P., $200

Fully guaranteed. We must have the room to keep our Alamo stock complete.

Norton Engine & Power Co.

201-203 No. Los Angeles St.
Los Angeles

Pumped by
The New Pomona Deep Well Pump Head

Pomona Mfg. Co., Pomona

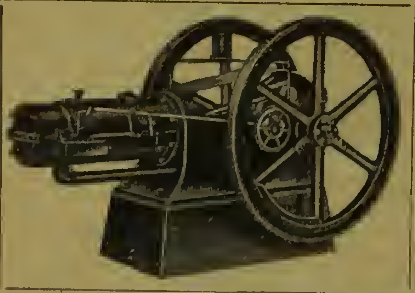
Riverside, Cal., October 8, 1907.

POMONA MANUFACTURING CO., Pomona, Cal.

Gentlemen:—In reply to yours requesting privilege of photographing our pumping plant which you installed for us last spring will say: You are perfectly welcome to take as many photos as you wish, and as our season for pumping is practically over, it may be of interest to you to know something of what we have been doing with it. We have raised forty inches of water about two hundred and fifty feet, delivering it through a six-inch pipe line to our reservoir about one and one-half miles distant from the well. The pump is driven by a forty-horse power electric motor, and our tests have shown the actual horse power used to be twenty-seven horse power. The pump has worked perfectly all through the season and is in perfect condition today. It has come up to all that you represented it and met our every expectation. Should you wish to refer to our plant at any time, you will always find it open for your inspection. Yours truly,

RIVERSIDE ARTESIA WATER CO.,
By George H. Kelsey, Supt.,

Commercial Gas Engines



'The Commercial represents all that is modern in Gas Engines. Which is not only durable and reliable, but preeminently a fuel saver. Manufactured in all sizes from 2 to 150 H. P.

Write for Bulletin No. 11.

Commercial Engine Company
953-5 North Main Street, Los Angeles

Columbus Engines

Have Stood the Test 14 Years

Fully guaranteed. Most simple and economical engine on the market today. You can't go wrong on a Columbus

Greenleaf-Compton Company
121 South Los Angeles St.,
Los Angeles, Cal.

500,000 FEET OF WATER PIPE

All sizes, Galvanized and Black, slightly damaged.
Special Price While It Lasts. Phone or write.
ABAMS PIPE CO., 603 Grant Bldg., Los Angeles, Cal. Phones: Main 1917, Home 1917

Samson Gasoline and Distillate Engin

Are Strong and Durable

Fully Guaranteed in Particular. We make plete Irrigation Outfits.

Samson Centrifugal P
Are the Best.

Enlargement of our f makes it possible for make prompt delivery.

Send for our new cata and estimates.

Samson Iron Works

Office and Factor
1100 to 1198 Aurora
Stockton, Cal.

Branch: 920 J St., Fresno

553 S. Los Angeles St. Los An

The O K Gasoli Engin

The Newest and Best in the Marke

Strictly high grade and guaranteed solutely.

For All Power Purposes

Made in Vertical and 2-cylinder do opposed from 2 to 50 H. P.

The Most Simple, Economical and Lightest gine made. Call and see it demonstra Then you'll buy the O. K.

Cartwright & Company
Pacific Coast Agents
110-112 North Los Angeles St., Los Angeles,

Olds Complete Pow Spraying Out

Equipped with their air-cooled engir which is a great advantage, making much lighter and easier to operat Send for circular and Price List 6802

The Compressed Air Machinery Company
Dealers in All Kinds of Machinery
34 to 40 Jessie St., San Fra

The Callah Oil Engines

The Highest Grade Made. Won First Pr Sacramento and Porterville Fairs. Large always on hand. Send for Pump and Catalogues.

G. W. Price Pump Co.
Main Office, 33 Stevenson St. San Fran
BRANCHES — Sacramento, Visalia, Porte
Works: 16 to 30 Jessie Street, 33 to 59 Ecker Street, 27 to 37 Stevenson Street, San Francisco

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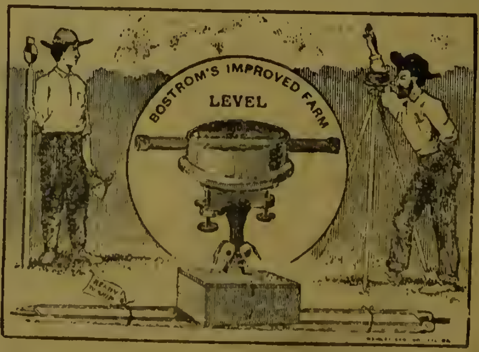
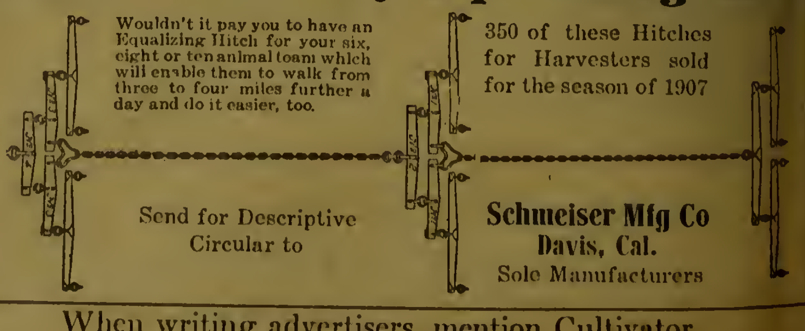


BOSTROM'S IMPROV FARM LEVEL

Used for Irrigation and dra work. Cheapest and best lev Invented for farm use. Has latest patented improvement simplicity and usefulness. C operated by any one. Price cluding telescope tripod and rod $12.50.

PALACE HARDWARE COMPA
456 Golden Gate Avenue,
Francisco.
Coast Agents. Send for Ci

The Schandoney Equalizing Hitc



Wouldn't it pay you to have an Equalizing Hitch for your six, eight or ten animal team which will enable them to walk from three to four miles further a day and do it easier, too.

350 of these Hitches for Harvesters sold for the season of 1907

Send for Descriptive Circular to

Schmeiser Mfg Co
Davis, Cal.
Sole Manufacturers

s Angeles February 27, 1908 San Francisco

ertile Fields of Stanislaus County

The Introduction of Water into Stanislaus County Has Made Productive Thousands of Acres Which Before Produced Nothing, or at Least But Little in the Form of Grain

WHOEVER goes to Stanislaus county will find that their slogan is, "Water is wealth," and their boast and pride is the great diverting dam at La Grange, a picture of which appeared in last issue. It is said to be the largest structure of its kind in the world, being 129 feet high, 310 feet wide, 33 feet thick, of solid masonry, and is for the purpose of irrigating 268,000 acres. The completing of this great system has brought great wealth to Stanislaus county, and many settlers are now going there to increase its prosperity.

Fruit growers in that county successfully substantiate their claim that oranges grown in that county ripen for the Thanksgiving holiday trade. Steps are being taken to form a citrus growers' association, because of the increasing acreage that has been, and is being, planted to these desirable and profitable fruits.

THE vineyards of Stanislaus will be the means of bringing many thousands of dollars to that section. Both table and raisin apes have done well

A growing industry is the celebrated Caliyrna fig, the well known fruit of commerce. is proving quite a success, being delicious, th in the fresh and in the dried state.

It is proving to be an ideal county for dairyg, having progressed from the twelth to the rd place in that industry in this State. Many perienced dairymen from Northern, Central d Southern California have moved there th their fine herds. There are good creames at Modesto, Newman, Oakdale, Ceres and rlock, and the butter fat commands among highest prices paid in the State. It goes thout saying, that with green feed the year ind, and an even climate, poultry does exdingly well.—J. W. Webb, Secretary Stanius County Board of Trade, Modesto.

The Celebrated DeLoach Mill

The World's Standard for 20 Years

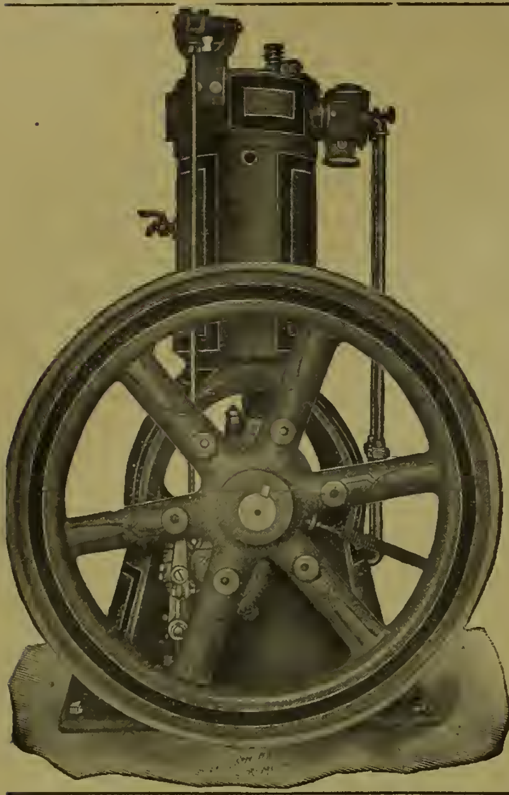
Saw Your Own Lumber

For lumber is lumber nowadays, and you can do it better than the other fellow, with our help.

We Set the Pace —Others do the Best They Can

A 15-year-old boy can operate successfully. Two hands cut 5,000 feet per day. 15,000 mills in use the world over. Variable Feed, Friction Set Works, Automatic Steel Triplex Dogs and Diamond Track produce results impossible with other mills. Send for catalog of Saw Mills up to 200 H. P., Steam Engines and Boilers, Gasoline Engines, Portable Corn and Feed Mills, Planers, Shingle Mills, Wood Saws and Water Wheels. Prompt shipment and we pay the freight.

DeLOACH MILL MFG. CO., Box 335, BRIDGEPORT, ALA.



Here's Your Chance

To buy that little Engine you've always wanted for the ranch.

Peerless Engines

3-H. P., $100
5-H. P., $170
6-H. P., $200

Fully guaranteed. We must have the room to keep our Alamo stock complete.

Norton Engine & Power Co.

201-203 No. Los Angeles St.
Los Angeles

This is a cut of the

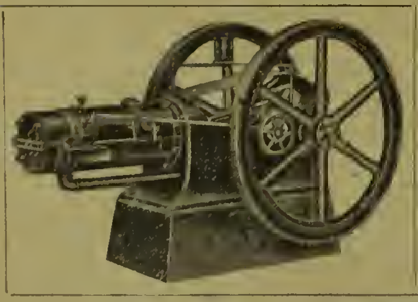
NEW POMONA DOUBLE PLUNGER DEEP WELL PUMP HEAD

for raising water for all purposes. It is highly efficient, thoroughly reliable and the smoothest running deep well pump made. It is built in three sizes from 10 to 40 Horse Power. Send for new catalog to

Pomona Manufacturing Co.
Manufacturers
Pomona, California

or C. H. Weed, Porterville, Cal.

Commercial Gas Engines



The Commercial represents all that is modern in Gas Engines. Which is not only durable and reliable, but preeminently a fuel saver. Manufactured in all sizes from 2 to 150 H. P.

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953-5 North Main Street, Los Angeles

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Have Stood the Test 14 Years

Fully guaranteed. Most simple and economical engine on the market today. You can't go wrong on a Columbus

Greenleaf-Compton Company

121 South Los Angeles St.,
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Samson Gasoline and Distillate Engin

Are Strong and Durable Fully Guaranteed in Particular. We make plete Irrigation Outfits.

Samson Centrifugal
Are the Best.

Enlargement of our makes it possible for make prompt delivery.

Send for our new ca and estimates.

Samson Iron Work

Office and Facto
1100 to 1198 Auro
Stockton, Cal.

Branch: 920 J St., Fresno

553 S. Los Angeles St. Los

Olds CompletePo Spraying O

Equipped with their air-cooled en which is a great advantage, maki much lighter and easier to ope Send for circular and Price List 6

The Compressed Air Machinery Company

Dealers in All Kinds of Machinery
34 to 40 Jessie St., San F

The Callah Oil Engine

The Highest Grade Made. Won First P Sacramento and Porterville Fairs. Larg always on hand. Send for Pump and Catalogues.

G. W. Price Pump C

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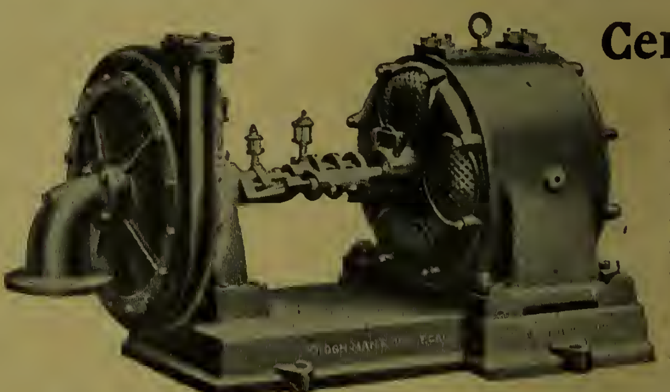


Centrifu Pump

For high or lo
Direct Conne
Belt Dr
Highest
effici

Krogh Man'f'g.
127 10 133 Be
SAN FRANCISC

Send for N alogue No. issued.

Established 1868

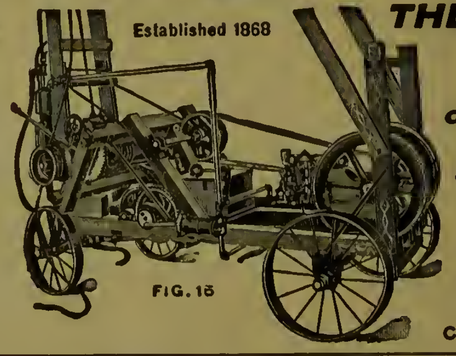


FIG. 15

THE AMERICAN W WORKS,

Aurora, Illinois, U. S.

Chicago, Ill. ***Dalla***

MANUFACTURE FULL LINE

Jetting, Rotary, Coring,

Drilling and Prospect

Machinery.

Any Diameter or Depth. and Speedy.

CATALOG MAILED ON REQUES

Of Course You Are Interested in Gas Engi

You would like to know how they are constructed, how to take care You can't afford to be without our booklet, "THE GAS ENGINE AND I CARE FOR IT." Write for it and save yourself money. (Send five stamps.)

Federal Gas Engine Co.

704 Union Trust Bldg. Los Angeles, Calif

500,000 FEET OF WATER PI

All sizes, Galvanized and Black, slightly damaged.
Special Price While It Lasts. Phone or write.
ADAMS PIPE CO., 603 Grant Bldg., Los Angeles, Cal. Phones: Main 1917, H

alifornia Cultivator

XXX--No 9 Los Angeles, California, Thursday, February 27, 1908 Subscription $1 a Year

e Principles of Plant Breeding

An Address by F. W. Power of Salem, Oregon, Delivered at the Last Session of the Oregon State Horticultural Society

probable that no branch of the nursery
ess is so much neglected as that of selec-
and breeding to secure new or better
of old varieties of fruit, or to secure new
roved varieties. The same might be said
al truth of the horticulturist or grower.
ot at all unusual to have a planter say he
is or that type of a variety, as a yellow
ction from a green one, or he wants red
s. and the same kind of questions regard-
ries, pears and other fruits. That there
excuse for such requests, there is no
Different sections or localities often
a decided change in the form, color or
qualities of fruit, and sometimes
new type.
ies often do not use as much care in se-
he best types or strains of each variety
should, one reason for this being that
nters are unwilling to pay any more for
ree of the choicest strain of any variety
an inferior tree of uncertain type.
) trees are, therefore, often grown in or-
neet or undersell competitors. Again,
en are often perplexed as to where to go
the choicest strains of a variety, as so
erest has been shown in this by the
and growers. In the third place, we
many varieties in our nurseries. It is
e for any nurseryman to grow 500 to 700
varieties of fruits and as many or more
of ornamentals, and to grow these 500 or
ties of fruits on the various roots and by
nethods to suit the planters, having often
his catalogue from 1500 to 2000, and to
y select all scions or even have his fore-
so he must depend to a certain extent on
er and others to supply these scions, and
he nurseryman who secures scions not
ame or of an inferior strain and happens
them out without discovering it by the
ks of the tree or leaves in the nursery

s no doubt that much improvement
made in many of the old varieties by se-
ions for a number of years from the
olored, best bearers or longest keepers,
ing them in selected stocks or seedlings.
a chance for the progressive grower to
a new line, and, by selection of scions of
best strains and making the fact known,
large part, if not all, of his pruning ex-
the sale of scions. Do not understand
nat great improvement can be made in a
ection.

Stock.

ow approaching dangerous grounds with
esrymen present, and if in a nursery-
vention would likely bring some of the
to their feet at the close of this paper.
mention pedigree nursery stock to the
urseryman, he will ridicule the idea,
o think that pedigree stock means one
cestry can be traced back for hundreds
as in the nobility of Europe, while a
a "pedigree" of over one hundred years
one of the poorest varieties in exis-
s I use the word here, pedigree trees
of a known type or strain, of good qual-
have been selected for some certain
stics—as color, quality, keeping, etc., whether for a long or short time, provided the results have been secured.

Now, I do not wish to be understood to infer that all variation in varieties comes from the scion, not by any means. As great variation occurs through non-selection of the stocks or seedlings on which they are budded or grafted. This is even a harder problem for the nurserymen than the selection of scions, for as we all know, any fruit tree from seed varies greatly, and to raise stocks at reasonable prices without using unselected seed is nearly impossible. When planters are willing to pay the added cost of selected stocks and scions I think you will find the progressive nurserymen only too willing to grow them in this manner. As nurserymen we must, therefore, either admit that we do believe, at least a little, in the scientific theory of selection of stocks and scions, or else that our well written circulars, advertisements, etc., are merely written to catch the "sucker" who plants.

I will not attempt to go deeply into the scientific side of this subject as I do not consider myself capable of doing so, nor would it interest the majority of those present if I did, but that varieties can be improved or adapted to new conditions and new and improved varieties produced by cross-breeding and selection there is no question. I do not claim any original work in this line, but make the suggestions from reading various authors and observations of results obtained. Personally, I am a firm believer in cross-breeding or hybridizing, rather than by mere selection.

Plant Breeding.

Plant breeding virtually commenced with Van Mons, in Belgium, and Knight, in England, a little over 100 years ago. Van Mons was the first to propound a complete theory or system of the philosophy of the origination of cultivated plants and applied especially to fruits. This theory was in the form of five laws, which for the most part are admitted today. These five laws as stated by Bailey from the writings of Poiteau are:

1. A natural species of tree does not vary through its seedlings in the place in which it is born; so long as it remains in its natal place, it produces only the plants which resemble itself, or, at most, only sub-varieties.
2. The causes of variation are a change in soil, climate or temperature.
3. Whenever a natural species of tree produces one or many varieties, these varieties continue to vary always, if they multiply by means of seeds, without ever being able to return to the primitive form.
4. The source of all variation, which is transmissible by sowing, resides in the seeds.
5. The older a variety of fruit or other tree the less the seedlings vary and the more they tend to return towards the primitive form, without being able to ever reach that state; the younger or newer the variety, the more the seedlings vary, or, as we might say, the better the variations are for the use of man.

"The student will observe that there is little in these statements to challenge controversy, save only the last or fifth law—that seeds from old varieties tend to give small difference in seedlings, and that these differences are usually in direct inferiority; being reversions toward primitive types; and that on the contrary, seeds of new varieties give wide variations, which are usually in the direction of improvement. It seems that this particular doctrine to which we now restrict the name—'Van Mon's theory'—was not originally deduced from observation, but from precognition not founded upon experience and practice, but which he endeavored by every means to verify and develop."

Knight, his contemporary, on the contrary, began a thorough study of nature, but never arrived at a general theory. He had hypotheses for minor problems.

While plant breeding and selection today are only in their infancy and but comparatively little scientific work has been done along these lines, until very recently, still many new and valuable varieties have been bred or selected by a host of men among whom we might mention Van Mons in pears; Knight in cherriees and other fruit; Adlum and the catawba; Bull and the Concord; Munson and Rodgers and various grapes; Dr. Nilson, director of the Swedish experiment station at Svalof, who has probably accomplished more in the improvement of varieties of grains than any other scientist; Hays of Minnesota (now of the department of agriculture) in grains; Webber, late of the department of agriculture, now of Cornell, and Swingle of the department, in citranges (a cross of the lemon, orange and trifoliata orange in trying to secure a hardy citrus fruit for northern climates,) also in pineapple hybrids and other fruits; Hansen in his work with plums and other fruits suitable for the colder sections; Van Deman, Galloway, Brackett, Eissen and others of the department of agriculture, in helping to introduce breeding or selecting of new and promising varieties such as the avocado, Yangtow, etc., etc., and improved varieties of cotton, tobacco, durum wheat, Japanese persimmons plums, figs, pecans, pistachio nut, grapes, etc., etc., Burbank, in our adjoining State, with his almost numberless new varieties and species of fruits, flowers, nuts and ornamentals; the late John Rock, who probably did more to introduce improved varieties of the French walnut to this coast than any other man, besides taking great interest in various other new or promising foreign fruits; Roeding in conjunction with the department of agriculture in introducing and in the propagating of the Smyrna fig; MacDougal, Castle, Davenport, Morgan and others in scientific experiments and writing on breeding and selection; the works of Downing, Thomas, Mechan, Barry and others in horticulture and plant breeding; De Vries, of Holland, by his experiment in plant breeding and his writing and lectures on the mutation theory and breeding.

Along the same line we should mention the great work being done by our experiment stations and by the U. S. Plant Introduction Gar- new foreign varieties for testing and distribution.)

We need more good varieties for adaptation to different climates and soils. No variety can claim to be adapted to a different soil or climate until it has been tested under similar circumstances. We need more variations, strains or types of our well known varieties for adaptation to varying conditions of soil or climate. The Newtown pippin apple, while one of the best quality, is only adapted to a few localities, and the same can be said of many others.

Continued on Page 224.

PEAR AND APPLE BLIGHT
We Can Cure it
Our Work has Extended Over a Period of Three Years
Process and Formula Patented
Address Correspondence to
VACAVILLE, - - CALIFORNIA.
PEAR-BLIGHT REMEDY CO.

Fruit Trees

Thousands of dollars saved by farmers by patronizing us. 50,000 Lob Ingir Smyrna Fig trees, 4 to 6 ft. in lots of 100 at $12.50; 500 and up at $100.00 per 1000.
We won the Gold Medal at the Lewis & Clark Exposition. This is the world famed Fig of commerce.
We have a large stock of Bartlett Pears, Royal Apricots, Orange and Lemon trees, as well as other nursery stock.
Bed rock prices. Send in list of wants. Address
Maywood Colony Nursery, Corning, Cal.
W. Herbert Samson, Prop.

Trees That Grow and Bear Fruit

Southern Grown Trees are best. Our trees are thoroughly dormant and acclimated to this southern country. Largest assortment of nursery stock in Southern California. Write us for price list; it is free.

Fruit Trees Nut Trees Ornamental Trees Roses a Specialty
Orange County Nursery and Land Company
Fullerton, California

Kirkman Nurseries
Address
P. O. Box 14
Fresno, Cal.

Wholesale Growers of Deciduous Fruit Trees and Vines
Send for Price List

Deciduous Fruit Cultu

WINTER CONTROL OF INSECT PESTS.

SOME years ago the Department of Agriculture at Washington, gave a list of about fifty insects which are injurious to farm crops. This was not a complete roster of such pests, of course, for had it been complete, the list would have included hundreds of names. Only those which had been specially injurious during the year were mentioned. The entomologist department of the Colorado Agricultural College has made a careful examination of this small group of the worst forms, which shows that no effective method of destruction has been found for half of them, except such measures as are used in general farm practice, writes S. Arthur Johnson, Associate Professor of Entomology, State Agricultural College, Fort Collins, Colorado.

The first thing of importance on the farm is clean culture. Very few injurious insects live entirely upon the crop that they infest, but find food on other plants similar in nature. The potato beetle, for example, finds its native food plant in the bull nettle, and often lives upon other plants of a similar nature. Other insects breed upon common weeds and are thus always more or less abundant and ready to infest the crop when it is planted. Thus the sugar beet web-worm lives upon many common weeds, especially lambs' quarters and sometimes becomes so numerous that it migrates into adjoining crops.

All insects live through the winter in some stage of their existence, and a knowledge of their condition in this stage is a great help in farm practice. Adult insects must hibernate somewhere, and the place most commonlly selected is a secluded place where changes of temperature will not be too rapid or frequent. Rubbish of all kinds forms go
ing places. Clumps of gr
weeds, hedges, and other pla
tenanted by a host which is
be hungry when the warm
comes. Many insects live o
the remains of last year's
Consequentlly, all litter left
fields should be collected a
stroyed. Meadows and gras
should be turned over, ditch
cleaned and rubbish along
fences cleaned out and destroy

Many insects live over wi
other stages. Most grasshopp
through as eggs in pods just
the surface of the ground. T
beetles winter as grubs in th
the corn-ear worm lives as
in an earthern cell an inch
below the surface. For the d
tion of such insects, fall and
plowing is one of the best re
It breaks the pods of the gr
pers' eggs and exposes them
weather or birds, or, rather,
them so deeply that the youn
never reach the surface, even
eggs hatch. It breaks up th
of the corn-ear worm and e
the grubs, and in addition
good mechanical effect upon t
and helps put it in such form
the crops can get the most n
ment from it.

In the general warfare with
pests preventive measures mu
ways play an important part,
careful study of insect tests will
beneficial part of the farmers'
ness. Oftentimes such mean
the only ones that can be em
and it is useless to call
specialist after the crop is fo
be severely injured.

THE HOME ORCHARD.

On a piece of land coverin
than half an acre, we suggest
the following be planted. The
supply the best and cover almo
entire year:

Apples.

It is not advisable to plant
in the foothill orange belts, e
few early varieties, as the wa
mate destroys the keeping q
of late apples. Early harvest,
and Red Astrachan and White
fleur are good summer apple
the latter has the record of
several crops in one season, for
blossom all through the su
intervals in the warm
belts. In situations near th
or in the mountain valleys, t
tion of Jonathan and White
Pearmain is desirable. The
does well in the interior at l
tudes when planted on rich
soil with plenty of moisture.

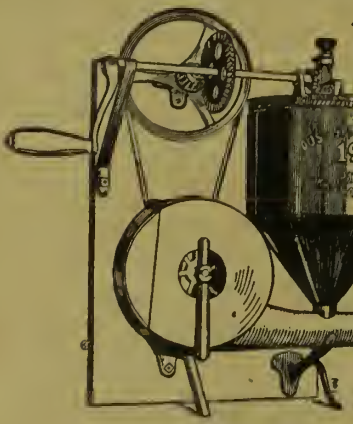
Pears.

Four good pears are Bartlet
mer Seckle, Col. Wilder and
Beurre. Winter Nelis is a go
but does not bear in many s
in Southern California. In t
interior valleys it makes a
lous growth and blooms
but fails to bear in some part

Plums.

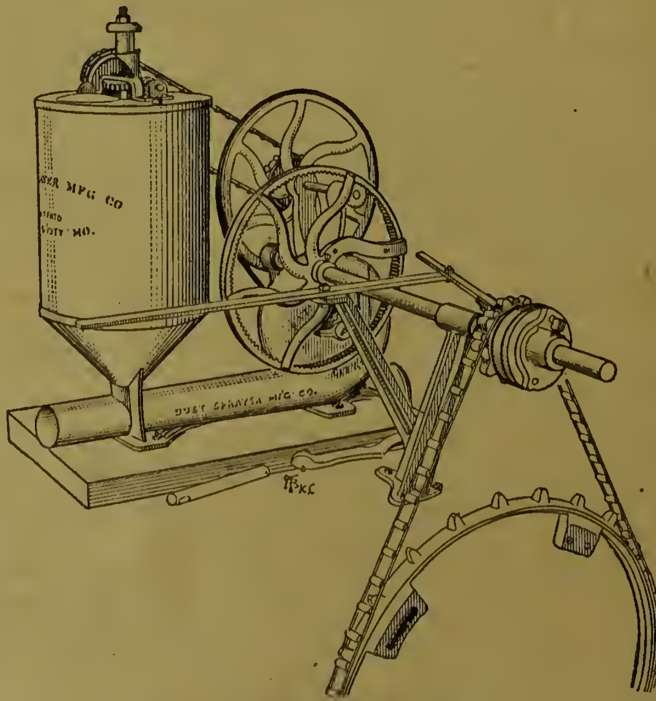
Plums of the European type
very popular, because of th
bearing. For good, sweet pl
eat off the tree, Washington
Grosse prune are good
should be ripe enough to be
latter may be picked when q
and laid away to ripen when the
equally as fine. Wickson and

DUST SPRAYERS



"1902" Portable

Dust Spraying by Grape and Fruit Growers has met with great success. It is the practical and labor-saving method of applying insecticide and fungicide. Send for catalog and California testimonials from Grape, Prune, Almond, Apple and Orange Growers. Five sizes. Hand, sprocket and engine drive.



No. 4 Sproket Driven

BAKER & HAMILTON
SAN FRANCISCO SACRAMENTO LOS ANGELES

Ask Us about Wa-nuts

The kind for commercial planting

Large, Rich and *Prolific*

Costs nothing to investigate

Ask for our Walnut Booklet

·gon Nursery Company
Salem, Oregon
ıen Wanted

·rplus Peach Trees

nyon Orange Cling
ler's Golden Cling } $15 per 100, $135 per 1000
vell Free . . . .

nond on Almond, $13.50 per 100, $100 per 1000

·onard Coates
Nursery Co.
Morganhill, Cal.

HENOMENAL
ERRY PLANTS

e your order now for good, ng plants. While the berries ·what resemble the Logan, are far superior for Jams, Prices very reasonable.
ıdress,

J. A. Althouse
Whittier, Cal.

oroughbred Plants

ıe Brandyvine Strawberry has ·oven itself to be the most pro- able variety with us, although have tried nearly all of Kel- ·g's strains of plants.
Owing to the quality of our ber- ·s we received on an average two cents more per box in Los ıgeles than the market price.
In our propagating beds the other plant is not allowed to ult and is given space that its fsprings may not be crowded, aking them strong and vigorous.
Write for prices and inquire ·out our Pierce grape vines.

·our Ranch, San Gabriel, Cal.

ıwberry Plants
Eight varieties, thoroughbred plants.

ckberry Plants
mmoth Blacks, Giant Himalayas, Early ·andall.

pberry Plants
rprise (earliest known) Millers, Cuthbert. *·wberry, Loganberry, Phenominal ·rry plants.* Mention Cultivator and send Catalogue.

I. Hopkins, Burbank, Cal.

rees

French Prunes and Apricots, Muirs and Tuscan Clings, and many other varieties of Peach Trees; all fine budded stock. Large stock of all the varieties of Apples, grafted on whole roots ·e from all pests. Also a fine stock of ·s, Pears, Plums, etc. Send for price list.

·HEIDECKER SEBASTOPOL, CAL.
Prop. Pleasant View Nursery.

afted Walnuts

have some fine grafted and seed- ·alnut trees to sell. Postal will ·ices, etc.

H. Hamburg, Whittier, Cal.

alnut Trees

·rown from carefully selected seed
Postal for prices.

Mills, Anaheim, Cal.

are excellent eating plums of the Japanese type. Cherry plum and Wayland are good plums of the American type. Sultan and Satsuma are blood plums that are excellent for jelly and canning.

Peaches.

Peaches are a favorite fruit and, fortunately, we have an excellent list of varieties that cover the season from June till December. We would recommend the following, ripening in the order named: Sneed ripens about ten days earlier than Alexander. Admiral Dewey follows and is a yellow free stone of good quality. Yellow St. John is a finely flavored peach that will not stand handling even for the local market, but is excellent for eating fresh from the tree. Large Early York is one of the best flavored peaches grown. Cooleys Favorite is equal to it. Wiggins is of the same type and a little later. Foster and Elberta follow and carry the season well into the late summer. Salway is, perhaps, the best late peach now on the market. It is not agreeable to eat out of hand, but sliced for the table is good.

There are a number of very fine midsummer peaches that are not found in the catalogue, because there is no call for them in sufficient quantities to warrant keeping them in stock. Stump the World and Belle of Georgia are of the class with white and red streaks just beneath the skin. This strain of peaches cannot be equaled for fine quality.

For home canned fruit, Foster for freestone and Old Mixon cling for the cling, and good. The yellow class such as Phillips' and Orange the cling, are good. The yellow culiar peachy flavor of the other two. Chinese Cling is excellent and much larger than Old Mixon, but is a shy bearer.

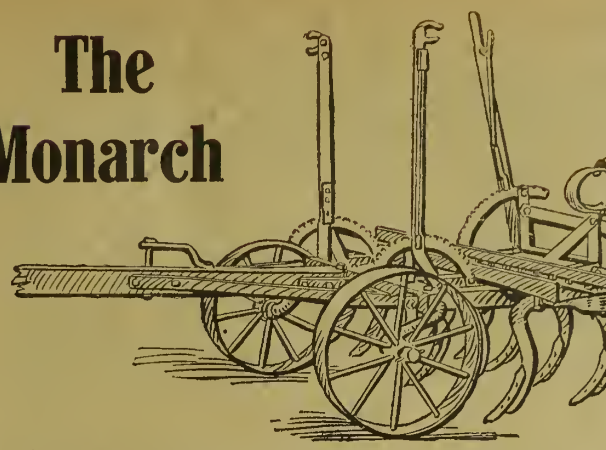
Figs.

Most varieties of figs sour within forty or fifty miles of the coast, in the southern valleys and also in many northern localities. There are a few varieties that are not affected this way, or at least have not proven so at this time. Rond Noir is a large, dark brown fig that ripens early. Angelique is a delicate amber colored fig that follows and Negro Largo and White Datatto are good black and white figs respectively that continue late into the fall.

Grapes.

The following list of grapes ripening in the order named will give grapes throughout the whole season: Chasselas Rose, Cinsaut, Olivette de Cadanet, Muscat, Muscatello fino, Verdal, Damascus, Lady Finger and Cipro Nero. All but the first two named and the last will grow well on an arbor. Golden Queen is an excellent late grape and a prodigious bearer. It is a good arbor grape.—J. W. M.

A Grass valley farmer cut open the craw of a quail the other day and after carefully counting found nearly 500 insects, the majority of which were harmful to his crops. It stands to reason that no kind of bird will live entirely on harmless insects. On the contrary, nature has wisely planned that the birds should subsist largely on the insect enemies of the farmer. Yet the farmer permits them to be slaughtered by thousands, truthfully remarks the Moro Observer, while he rushes off into lawsuits if a railway train runs over a $2.50 pig or a hunter shoots a $6 calf.



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For Deep Cultivation

If the orchard has for years been cultivated try the MONARCH for improving the soil conditions. Made by the

Killefer-Griffith Mfg. Co. *1336-1338 Palmetto St., Los Angeles, Cal.*

The Anaheim Evergreen Nurseries

The Oldest Nurseries in Southern California. Established in 1868.

Tim Carroll, Proprietor Anaheim, Orange Co., Cal.

Washingtonia Robusta and Phoenix Canariensis Palms, any size from 1 to 8 feet, in large quantities.
Street and ornamental trees; Cypress and Guavas; Blue, Sugar, Rudis, Diversicolor, Robusta Tereticornis and Red Gums.
All eucalyptus and Cypress taken up with my patent transplanter, with a ball of earth around the roots and placed in rows in flats with sand sprinkled between for shipment.
Prices on application.

Nurseries and Office Located at West Anaheim (S. P. Ry.) Sunset Phone Main 413

Fruit Trees and Grape Vines

Full line of ***Commercial Varieties.*** Life is too short to experiment with novelties. This is why we confine ourselves to Money Making Commercial Sorts. All leading sorts of

Apples Plums Peaches
Cherries Prunes Apricots
Wine, Table and Raisin Grape Vines

Get our prices before buying elsewhere. We have been pleasing our customers for 18 years. Large catalogue and Souvenir Picture showing largest tree in the world, mailed free upon application. Address

P. .O Box P. P. 42 **The Fresno Nursery, Fresno, Cal.** F. H. Wilson, Proprietor

WALNUT TREES

Having about six thousand Walnut trees that have to be moved on account of close of lease, I will make special prices on them for the next thirty days. These trees are two and three-year-old Santa Barbara soft shell variety, stocky and well rooted, running from four to ten feet in height. Seed selected from one of the best orchards in Orange county. A rare opportunity to get good trees at right prices.

Geo. B. WARNER, Nurseryman
Sunset Phone Red 92 Santa Ana, Cal.

200,000 Eucalyptus Trees in Variety

Transplanted in flats of 100 each. We prefer orders of 1000 rather than 10,000; outside limit 20,000. Our trees are up to our usual standard. We invite correspondence. Our booklet, telling when, how and what to plant, free to our patrons only. Address

W. A. T. Stratton, Nurseryman, Petaluma, California

Berry Plants

Himalaya and Crandall Blackberries, Burbank's Phenomenal and Loganberries, and Gardena Dewberries. For prices and information address,

A. E. Johnson & Sons
San Gabriel, Cal.

Here's a Chance for All

The all around Tilton
Apricot at special rates.

Hanford Nursery, Hanford, Kings Co., Cal.

When you put on a roofing it is because you want to **protect** as well as cover your building and its contents. Many roofings merely cover. Congo **covers** and **protects.**

Some roofings are merely paper "treated" in some manner and shortly after being laid they go to pieces or dissolve in the first hard rain.

Congo is different. There isn't a particle in its composition that can be affected by water, heat or cold. It will not dry up, rot or rust.

A Congo roof never leaks, and for durability it is not equalled by any other.

Write for Free Sample and prove for yourself its superiority.

United Roofing & Manufacturing Co.
Successors to Buchanan-Foster Company
567 West End Trust Building, Philadelphia
Chicago and San Francisco

Not Connected With Other Stores

Intelligent Buyers
Appreciate Our Methods

Stores using the sensational special reduction and great discount methods are often considered low priced, while stores transacting business on a straight price system are assumed by many to be high priced. A little careful consideration will show you the error of this assumption and convince you of the advisability of buying under our system of pricing and selling, furniture, carpets and draperies.

Our Store Is the Low Priced Store

We have but the one price for all and that price is as low as it is possible to sell good qualities. If furniture is originally priced right there can be no special reductions or discounts. Stores employing such methods must price their goods high to provide for the great reductions. Such stores must then be high priced and you are paying much more than the goods are really worth. Our every day, plain figure prices are the right prices and are lower than you will find such goods priced elsewhere. We have the largest and finest stock on the Coast.

PROMPT DELIVERY IN PERFECT CONDITION

Pease Bros. Furniture Co.
NOT CONNECTED WITH OTHER STORES
640-646 SOUTH HILL ST.
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LOS ANGELES, CALIFORNIA

CEMENT PIPE TOOLS

Do you want to make money? Here is your chance. Get a set or two of our pipe tools, make up a stock of pipe and do contracting of installing irrigating systems. Your neighbors are wanting something to save water and labor. Here it is. Write for our Brown Book. It contains much information for those interested in irrigation.

KELLAR & THOMASON
COVINA, CALIFORNIA

Citrus Trees

For Season 1908

Valencia, Eureka Lemons, Thompson and Washington Navels, Grape Fruit

C. L. McFarland & Co.
Riverside, Cal.

Valencia Late and Eureka Lemon Trees

Budded high on Florida sour orange stock. Splendid stock. clean and thrifty.

A. D. Paxton, Orange, Cal.

When writing advertisers, mention Cultivator.

With the Citrus Growe

ORANGE CULTURE.

During the early history of orange growing in California, it was generally considered good practice to plow and cultivate shallow, and many groves were cultivated in this manner. Other growers practiced deep plowing and cultivation, and as time went on, both classes of orange men had their trouble with soil and with orange trees out of order. Many reasons were attributed as the cause of this. Some of the groves which had been continually cultivated but a few inches developed a hard layer of soil just below the surface mulch. In this hard layer and directlly beneath it, were the great bulk of the roots of the orange trees. When groves in this condition were plowed deeply and the hard layer with its many orange tree roots was broken up an immediate improvement in the. trees were noticeable. Trees that were severely root-pruned in this manner sent out a new system of feeding roots near to the surface; in consequence, a more healthy growth was developed in the tops. The results thus obtained were usually attributed to the formation of a new root system. This was really not the case.

The inability to get the water into the soil was the chief cause of deterioration. This was quite evident to many and a stampede for the use of the subsoiler followed. This served its purpose well on soils subject to formation of "hard pan" below the plow, and in many cases was used to an extreme. Trees growing in a light, sandy soil, which takes water readily and retains it, is not benefited by subsoiling. This is proof enough that it is not a new system of roots that degenerated trees need so much as it is a more thorough and uniform moisture supply.

Inducing Deep Rooting.

It is a well known fact that the depth to which orange tree roots grow may be influenced by the treatment given them from the time they are planted. This influence seems to be slight, however, and we have never seen a case where the increase in depth of root development was very marked. The Florida sour orange is naturally a deep rooting variety, still some specimens have both the deep and shallow system on the same tree. This is not due to any particular treatment, but is the nature of the tree.

Deep plowing and cultivation and thorough irrigation has a tendency to develop some roots several feet below the surface, though it is perhaps the deep irrigation that is almost exclusively responsible for deep rooting.

One prominent orange grower in Riverside has adopted the plan of running the irrigation water close to the young trees and keeping the spaces between the rows dry on the surface. The percolation sidewise and downward fills the lower stratum of soil and leaves the upper layer dry. We believe more is gained by keeping the entire area occupied by the roots, moist from six inches of the surface down.

The Richest Zone of Soil.

When the upper six to ten inches of soil are kept loose and continually stirred throughout the season, no orange roots can become established there. When it is allowed to dry, no roots will grow there, it is moistened and remains turbed, then the orange root grow in abundance. It is n moisture that draws them ther other things being equal, the tions that best suit the orange are found within two feet of th face. Even when a uniform sup moisture is present to a depth to fifteen feet, fully 80 per ce more of roots are found betwe inches and two feet of the surfa

This condition cannot be di in the case of groves on sweet pomelo roots, and if they ar coaxed down by a uniform and cient supply of moisture, we seek some other method if we w force them down. The plow an tivation are efficient only as de they penetrate. The orange ravenous and rapid feeder an roots seek the moist, fertile The roots will approach the s in abundance, as close as the cu tor will allow them, moisture c tions being equal. This shows natural tendency of the sweet o root, and we are opposing n when we try to force the roots d It is a well known fact that the fying agents in the soil are abundant in the zone occupied b ange roots than at a greater dep

(To be continued.)

BE EASY.

One of the coming industrie Santa Paula is the production of died citron. Mr. Carter, one of citizens has succeeded in produci superior article of this well-k and expensive fruit. Our climate soil is admirably adapted to growth of the trees and fruit the profits are enormous. About trees are planted to an acre and are continuous bearers. The weigh from one and one-half pounds each, and a very conse estimate by one of our leading growers was two hundred poun tree or 20,000 pounds per acre the present retail price of 35 c per pound, the product of one will amount to $7000. We are sured that sugar will be the pr pal item of expense in the pr tion of citron and that the mos that retained in the fruit and so a good margin of profit. The fruit be produced as cheaply as lemons with the same cultivation and car

The discovery of the method o ing the fruit was discovered afte eral months of experimenting b Carter, and comparisons of citron served by him with the imported carried in the local groceries greatly to his advantage. His pr is far superior, both in flavor an pearance, being both lighter clearer.

A company is a probability o near future which will be org for the purpose of carrying new industry on a large scale. Paula Chronicle.

Sounds good, but, be carefu easy, now, till a little cold exper verifies some of the above figur is possible that $7000 may be r all from the product of one acre, bear in mind there is "sugar"— some other things—to be consider

We do not think the citron orcha of Riverside and Monrovia have b astonishingly successful. They h produced the fruit. The fruit has b made into a fine article, but in the rious turns the coin has not b plenteous enough to prove embarr ing to the growers.

The Cultivator has no desire to courage enlarging our capacity to p duce citrus products. On the c

itrus Trees

Ready for delivery a first-class stock of Valencias, Washington Navels, Eureka Lemons and Marsh Seedless Grapefruit. .˙. .˙.

ollard Bros.
ALHAMBRA, CAL.

ve Thousand Lemon Trees
ve Thousand Orange Trees

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ʼ it hopes they may be enlarged the sale extended constantly.

ıt we do not believe a $7000 (less tle "sugar") per acre claims ns should be set before a prospec- planter. Cut off a cypher—maybe of them. Then if the grower gets ʒ than that it will look better to than if he starts in with $7000 ex- ations and $7 or $70 realization.

HAVING TROUBLES.

ɔrida is having her troubles with rest of us. On the marketing tion we recently noticed in the ida Agriculturist the following:

a Conspiracy?

e do not make the charge, posi- ly, but some things which are ›ening have very much the ap- ance of an organized effort to k down the market price of Flor- oranges. The tremendous rush reen fruit early in the season de- ılized the market to such an ex- that many buyers have lost con- rable money. Have they com- d to recoup themselves by break- the market to such an extent that may be able to buy up the re- ıing crop at figures which will v them to recover their losses n they sell on the rise which is to come? There are many cir- stances which give color to the estion. We have heard a report Florida oranges have been sold ew York for as low as 40 cents x. If so, it must have been that fruit was not in good condition. of the trade papers reports that lot of Florida oranges, containing boxes, was in such bad condition it had to be repacked and the re- was that only 100 boxes of fruit left and that by no means first . Such decay can only be ac- ted for on the belief that the was not properly handled. There ıo doubt that oranges can be ɘd, packed and shipped without ›us loss from decay.

has always seemed a great pity s that the old Florida Fruit Ex- ge could not have been revived. ad its enemies; no organization l possiblly expect to satisfy every ›mer, and as the managers were an they do doubt, made mis- s, but we have always bellieved they honestly tried to work for good of the orange growers. In it would have been very foollsh hem to have done otherwise as could only prosper when their customers were also doing well. Is it not possible to organize an association which sould have its headquarters at Jacksonville and thus be so situated that it could not be accused of favoring one section more than another?

GUM DISEASE.

This is one of the most destructive diseases that threaten the industry and must certainly continue to spread and destroy trees as they become older unless stringent measures are taken to check it as has already been done in some sections where it has threatened entire groves. There are many quacks in the field selling patent dopes to cure this disease and they should be given a scant hearing by growers who are seeking permanent results. Exhaustive tests are being completed in the State Pathology Laboratory, and these show that the trouble is not due to any spore, germ or organism, but in every case to physical and mechanical conditions which are nearly always in the soil. Any disinfectant or other dope applied to the wounds is of no value then as a curative measure. What is important in this respect is to remove diseased tissues before they are entirelly dried out and while the sap wood beneath the diseased cambium is still capable of healing over the diseased portions. Now put on a heavy coating of any material you choose that will hold the natural moisture of the trunk and thus facilitate healing. It is desirable that it should contain sufficient disinfectant to prevent saprophytic rots from entering the wounds, but not enough to burn and kill the sap wood beneath, which must be depended upon for healing out the portions removed. I have found groves where this healing was going on beneath a coating of beeswax, and others where a heavy coating of coal tar was answering the same purpose. Many object to the oils of tar and will probably prefer the beeswax preparation which is made as follows: Three parts of beeswax, one of resin, a little linseed oil. This combination is quite cheap and is nearly transparent. It must, of course, be applied while warm. A heavy plaster of fresh cow manure bound about the trunks is also very satisfactory, if a sufficient amount can be obtained.

The gum disease situation in some of the worst affected districts is very hopeful and it is largely due to drainage, exposures of bud unions, and a thorough spading of the soil about the trees directly after the rainy season, and as often as it is necessary to prevent it from baking and becoming hard, at the same time allowing air to penetrate to the feeding roots and prevent the soil in which they are embedded from scouring, this is probably the most important factor of all. While conditions producing this disease here are not entirely analogous to those of other sections, especially in the matter of under drainage, yet there is much to be learned from their work. No other cause is at once so vital and difficult to overcome as lack or drainage, and I believe that the difficulties here can be even more easily and effectually surmounted than where this is the chief cause. Much work has already been done here and much of it promises to be very satisfactory. It should be extended to every grove where this disease occurs and every possible effort should be made to remove the cause of it before spring, for it is usually then that new cases appear and the old ones spread about the trunks. Where it is necessary to dig down to expose the bud unions, the basins thus made should be filled before they collect rain water. White sand or other sand free from clay is best for this purpose. If desired it can gradually be worked into the soil and thus make it much lighter and less susceptible to the disease.

As usual preventive is better than cure, and it must become a part of field practice to remove and prevent causes before the disease appears, for a diseased tree is not easily reclaimed to its full bearing capacity. I say "prevent" causes from occuring because I know of cases in this very association where gum disease has been induced, especially in border rows, on light soils by basin irrigation. Water is certainlly not more valuable than trees and should never be allowed to come into contact with the trunks, much less to be held about them.—From report of Field man Jones to San Dimas Lemon Association.

ORANGE VINEGAR.

Orange wine has been tried, and has been found wanting as a solution of the orange cull question.

Riverside was recently visited by an experienced cider and vinegar maker from the East, who has been in the habit of running mills with a daily capacity of from 300,000 to 400,000 pounds of fresh fruit, used wholly in the manufacture of fruit cider and vinegar, using something like 5000 to 6000 boxes of orange culls per day of 24 houds. Such a consumption would clear the situation quickly, and it is this gentleman's opinion that the radical cure for the cull trouble is to be found in the establishment of orange cider and vinegar works in the best center of the orange growing section, where the greatest amount of culls can be teamed direct to the mill from the groves without having any freight to pay. Those who have the privilege of tasting the delicious orange cider and vinegar which was exhibited at the centennial fair at Chicago, in the Florida section, will remember the delicious and incomparable article. This was done by the advice of Mr. Labonde, who acted as counsel for the Florida commission, and it was a striking success. Here at home some have had the good fortune to sometime have a taste of this delectable luxury, a drink fit for the gods, as Riverside orange cider is sometimes served at the Hotel Glenwood. If this article was an article of commerce to be bought by those wishing it, every traveler of note stopping at our hotels would become lasting customers. Many rich men and women who love the golden fruit cannot eat it because the pulp is, in cases, indigestible, and often is the source of great distress, to avoid which abstinence from this delicious luxury is the only course; but let the delicious nectar be extracted in its pure natural state, and placed at the disposal of all the well and sick men and women of wealth in the country, and a new era will have dawned for the orange industry.—Riverside Enterprise.

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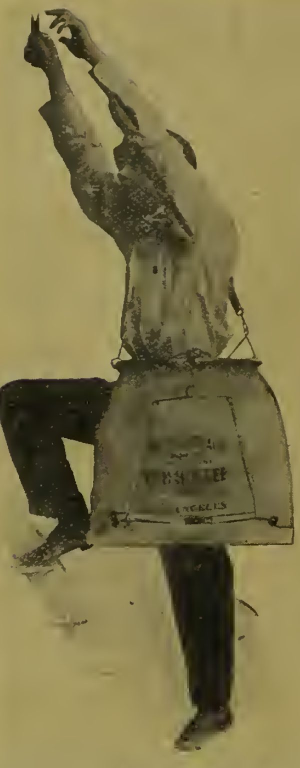

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SELECTION AND BREEDING IN HORTICULTURE.

Continued from first Page.

Note the change in our plums in the past twenty-five or thirty years since the introduction of the Japanese sorts, especially in California where the Japanese types and hybrids are now far in the lead as commercial varieties.

Variations.

No two things are exactly alike. No two Baldwin trees are exactly alike; no two branches or even two twigs or two leaves on the same tree are exact counterparts, but for all practical purposes from a horticultural standpoint, any number of trees can be propagated by budding or grafting from a known strain and produce fruit near enough alike for all commercial purposes, and many nuts will produce nearly true to type from well selected seed.

Variations, and often new varieties, occur through cross-fertilizing or hybridization; variations also occur through changes in climate, temperature, soil, cultivation, etc., that go to make up environment.

Mendel's Law.

Nothing in a scientific line has been discovered in the past generation (and I might nearly say all time) that has made a greater impression or given a greater impetus to breeding than the laws of Mendel, the Austrian monk. When first presented they were not understood or appreciated, and for about thirty-five years his law of heredity or unit characters remained unknown, as they appeared at an unfavorable moment—about six years after Darwin's views on the origin of species. They were apparently never heard of by Darwin or Wallace, the men who could have appreciated their worth, yet they contained one of the very best clues needed for the Darwin theory. A revival of interest in these matters on the part of a few biologists led in 1900 to the re-discovery of the principles of heredity.

While we are all familiar with the fact that changes can be produced by cross-pollination, a short review of Mendel's law might not prove uninteresting to some present who have not read them, and while I do not pretend to fully understand them I will try and bring out a few of his principles of interest to breeders, referring those interested to the various writings on this subject. In the first place, when crosses are made of two characters—for example, of a short and tall variety, one character, as the tall, is dominant, and the other weaker or recessive. In crossing one pair of characters in the first generation all will show the dominant character. In the second generation (usually called second filial generation) there will be three times as many dominant as recessive or the ration of 3D:1R. Of these three dominant, one will be pure dominant and bred true, and two will be mixed dominant and recessive, so that the complete ratio would be:

1 pure dominant.
2 dominant-recessive.
1 pure recessive.

Or, to state the law, "Where there occurs a pair of different characters, one of which is dominant, three possibilities exist," pure dominant, which always breed true; recessive, always breed true; impure dominant, which on self-fertilization or inbreeding give both dominant and recessive in ratio of 3D:1R.

Where there is but one p charcaters it is called mono- dism. When there are two p characters, or di-hybridism, comes more complicated. F stance, if we have tall-yellow with dwarf-green in which w say tall is dominant to dwar yellow to green. In the first g tion all would be tall-yellow, dominant characters of each In the next (second filial gene talls and dwarfs would be i ratio of three tall to one dwar the yellow and green in rati three yellow to one green, make even numbers, if we hav teen plants there would be tall (dominant) to four dwarf cessive;) of every four tall will be yellow and one green, of the twelve talls we have nin yellow to three tall-green. O the four dwarf we will have yellow-dwarf to one dwarf-gree

9 tall-yellow (both dominant.
3 tall-green (dominant of one recessive of the other.)
3 yellow-dwarf (dominant of and recessive of other).
1 green-dwarf (both excessive

Here we have an easy cau failure in our experiment if w pect all the nine tall-yellow to true. Only one of these is fixed will breed true, the remaining are found to throw out new typ that the breeder must save the from each plant separtely. "He then obtain what he wants, and obtain it already fixed." Bre should also remember that ratios will not be obtained ex in his experiments but only app mately, as it is usually impos to tell in advance exactly what acters the pair contains and ma characters may be contained in seed first used, or what is know the "presence and "absence" h eses—the existence of ch non-blending in alternative we can only tell by exp whether we have a pure do character to start with. An In ing example along this line Blue Andalusian fowl whic hibits characters peculiar to "Breeders have long recognize difficulty of obtaining a pure of this variety." No matter carefully the "blues" are se they always throw out "wase two sorts, some pure black, a peculiar white with black spl Careful breeding shows on the age one-half the offspring come one-fourth black, and one white. These proportions at suggest that the "blue" are nant-recessive (heterozyotes,) that the blacks and whites a pure dominant and recessive (zygoes) as they give the ratio

1 black.
2 blue (black-white).
1 white.

Here again experiment with theory. When the blac splashed-white are bred togeth the offspring are blue. Parad as it may sound, the "pure blu" A dalusians are mongrels.

"All possible forms which emanate from a cross between fixed strains appear in the sec generation, provided a sufficient nu ber are grown, and a certain prop tion of each of these forms is alre fixed in the second generatio "Again, since all possible re-combi tions of characters involved in a cross come fixed in a definite prop tion of the individuals of the

tion, it is obvious that the
riglual, parental types, will be
them." Now it is a well
fact that in most cases a
means increased vigor for the
y. But the breeder usually
es at making such crosses for
f breaking up and losing the
ɔle combination of the charac-
ound in the original strains.
el's discovery may reassure
n this head. In three genera-
ie can now produce the paren-
pes, and reproduce them with
ie increased vigor, resulting
a cross." "The less a hybrid
oles the form at which the
r aims, the more likely is that
o breed true in the next gen-
."

., Mendel's law of dominance
universal; it holds primarily
n-blending alternative charac-
Numerous allomorphic charac-
s form a mosaic or even blend
offspring.

nd, Reversion is a phenomenon
has long been noticed and
was studied by Darwin. He
of reversion as though it was
osition to the usual laws of
ance. It is, however, now be-
clear that reversion is no in-
n of the ordinary laws of in-
ice but constitutes a special
f inheritance in hybridization.

d, Mendel's law takes no ac-
of the immediate characters of
rents, but only of their ances-

many of the characters of
and animals are of the order
tations it remains to investi-
he methods of inducing muta-
as fluctuations have been in-
and MacDougal has succeeded
line of work by injecting cer-
alts (sugar solutions, calcium,
, zinc sulphur, etc.,) into the
of plants before the eggs
ertilized by the nuclei from the
grains. How far this method
e extended remains to be seen.

man in a recent paper before
eeders' Association said: As
to the theory of heredity Wil-
id a few other investigators
ound an extra chromosome in
iclei of certain animals. This
chromosome is present only in
rm cell produced by the male.

believed that when the ovum
is fertilized by a male cell not
the extra chromosome the re-
chromosome is female; but if
ed by the germ having the ex-
omosome the progeny is male.
ould be of great importance to
breeders.

ber in a recent paper says:
characters are more or less
to each other in certain
and are inherited together,
similar to a unit character in
spect. There are four correla-
groups: Environmental, mor-
cal, physiological and co-heri-

imental.

lants grown on sterile soil will
rt stemmed, also the diameter
stem, leaves, etc., correspond-
educed.

logical.

tion of one character primary
or variation in another char-
De Vries described two
of correlation—one, those in
two characters react in the
ay, the other where the varia-
one character is casual condi-
variation of the other charac-

Physiological.

As excess of leaf production to seed production.

Co-herital.

Characters not related to each other in any direct or casual sense but which are inherited as a single unit character.

A Great Field.

Hays says: Nowhere else in the world is there so marked a movement to organize for improvement of plants and animals as in the United States.

A great field lies open to the plant breeder. If Mendel's laws prove practically true to proportions and "that all possible types come fixed in the second generation," it will save much time and expense to the breeder. If in three years from a cross we can reproduce the parental type with the increased vigor of the hybrid, there is some inducement to even try and improve our best varieties like Newtown Pippin and Spitzenberg apples, Royal Ann and Bing cherries, etc. Will any one present venture to estimate how much wealth would be added to this State each season if we could produce a cherry equal to, or better than, the Royal Ann, Lambert and Bing, ripening a week or two later so as to avoid all danger of damage by rain?

Some of our leading plant breeders like Burbank (who says "heredity" is the sum of all past experience) claim that they have not been able to secure the relation shown in the Mendel laws, and I think we will all find that certain errors will creep in, not because the laws are not well founded but on account of not knowing in advance just what characters our experimental plants have, and what masked characters, or alternative pairs, they contain about which we know nothing, also from combinations of characters producing unexpected results. They have already explained away a mystery regarding the Blue Andalusian fowls that long perplexed scientists. My opinion is, that the greatest advances will be made in cross-breeding and selection of the best types produced, rather than through slow, natural selection or fluctuations. The mutation theory, while not yet concurred in by many scientists, certainly is a great advance over the old theory of fluctuations. While all new species may not have been produced by mutation, a large number undoubtedly owe their origin to that source, and it is certainly reassuring to the prospective breeder to know that he need not wait for ages to produce a new species.

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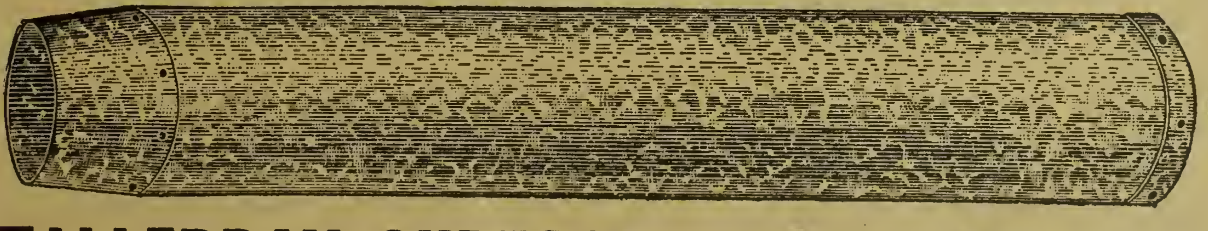
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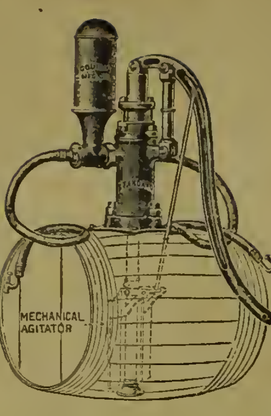

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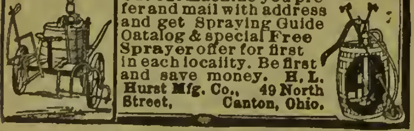

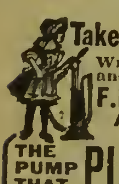

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20,000 Palms in seed beds
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500,000 A1 Everbearing Strawberry Plants, Kellogg strain, Delivered f. o. b. Irwindale, $2.00 per 1000. Discount for larger orders. Address

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The Vegetable Garden

PLANTING CANTALOUPES IN THE COACHELLA VALLEY.

MR. A. W. McGill, of Thermal, gives of his experience in cantaloupe growing, as conducted in Coachella valley. Mr. McGill writes from several years' experience in that section:

Raising a good crop of cantaloupes is much like raising a good crop of anything else. It requires good land, good seed and proper cultivation. First, your land must be in good condition, either with or without irrigation. For best results, plow under a leguminous crop. Alfalfa sod plowed under is best of all. Commerical fertilizers are not so satisfactory. Have land well plowed and harrowed two or three times before planting. Under irrigation have it well irrigated. Lay off rows six feet wide. Plant with hoe, ten, twelve or fifteen seed in a hill; get the best seed from the most reliable seed man, regardless of price. Plant hills four feet apart. By making a marker you can mark off three rows at a time four feet apart. By being careful one can plant so that the ground can be cultivated both ways, which is very essential while plants are young. Plant about one inch deep, and a short time before they are ready to come up, go over with a garden rake, drawn through the hills with a lifting motion. This will remove any lumps or crust.

The seeding period is the critical time in the growth of the cantaloupe. It is at this time that it needs close attention or it will receive a setback from lack of moisture from high winds or cold weather.

The roots that develop when the seed germinates go down from the seed, while the stem is pushing upwards. These roots form a support for the plant during the first two or three weeks, for up to that time the stem from the seed root up to the surface of the ground is smooth and white. The second root system starts from the stem about the time the fifth leaf appears. These roots form the main feeders for the plant, for the growth of a hill of melons is insignificant until it feels the impulse of the larger and better root system.

The question of early cantaloupes depends on the farmer in supplying conditions that favor development of the lateral root system. Hoe and cultivate once a week, and when the fourth leaf appears hoe the dirt well up around and under the leaves, and don't be afraid to draw it well up, as too much cannot be said in favor of pressing the dirt firmly, and have it rather moist around and under the young plant at this time. The feeders for the plant are putting out now, and the more of them you get the better growth the vine makes, and the more standard melons you get. In fact, I grew a 1200-crate crop one year, and I had one man in the field nine weeks hoeing, or the equivalent of one man's labor, and my succes was due to thorough hilling up of the young plants when they had four and five leaves on. In that crop I did not have ten per cent ponies. By pulling the young plants until they have six or eight leaves on, one can see just how they develop. Thin to two, or even one, to the hill; pinch off plants when thinning; do not pull out, it will disturb the growing plants. I have best results with one plant to the hill. Cultivate often, but farther away each time. After the fifth leaf appears, by all means do not disturb the surface roots. They are the only roots the vine has. You can pull up a grown vine and the first root that starts downward does not make much of a growth, but the surface roots spread on all sides, and in cultivating never turn the vines around out of the way, as that will cut off your supply of early cantaloupes, caused by the plow cutting off the surface roots. In irrigating one has to be governed by the kind of soil he has. It is fatal to soak the ground where soil "subs" good. One furrow on each side gets good results or one furrow to the row. I never could see much difference. The main thing is to irrigate before the soil gets too dry, and after the vines get to spreading over the ground one can see by the vines when they need water. The points will point upwards and have a slightly withered appearance.

The cucumber beetle, the rust and the aphis are enemies of the cantaloupe. The beetle may be checked by applying road dust. We have some success against the aphis with the ladybug. The rust is not prevalent. By planting rust-resistant seed one can overcome that disease to some extent. In marketing we are all up against it. I get best results by putting up a standard crate of forty-five melons to the crate, five in a row, three rows on the side of a crate.

Another size are ponies, fifty-four to the crate, six in the row. Pack good melons; wrap your own brand if shipping a long distance; use paper fifteen by fifteen. It will pay, as the loss is small and the appearance of the fruit will help to sell at a good price.

I have shipped crates of standard melons packed that way and sold for $9 in Denver.

In selling to commission houses select good reliable houses in each city to ship to, and stay with them acquainted. Visit them if in their town and you will find they will treat you right. I still ship to the same people I started in with. Don't ship a few to one house and then another in the same city. Show your commission man you have confidence in him, and don't expect him to get a fancy price for your stuff when you would not eat it yourself. Sell f. o. b. as much as possible. Melon associations are good to ship through. the main thing is to get good fruit, know when to get it and make a good pack.

In conclusion, will say: Have good ground, good seed, hoe shallow but well, cultivate often, get your surface roots started as soon as possible. Study the root system and you can raise from one hundred and fifty to three hundred crates to the acre, and mostly standards.

THE POTATO MOTH.

The damage due to the potato worm is often very serious, and for the past two years we have studied this insect and control methods. It has been demonstrated that the worms can be much reduced by a special system of planting and hilling. Also, slightly wormy tubers may be cleaned by a process of soaking in water. This treatment kills all the worms and makes long storage possible. The investigation of the potato moth is not yet complete and the remedies now known may still be improved upon.—W. H. Volck, Watsonville.

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he Ornamental Garden

RANGING THE HOME GROUNDS.

EFORE building a house most ersons recognize the necessity of having a definite plan of the ure. Comparatively few peoowever, realize the desirability nning the home grounds. And e latter may have quite as to do with making a home as rmer.

a short article it is impossible e more than a few general prin-. These, if considered in their r relations to the situation of uilding and the character of the ndings, may lead to pleasing s. The location of walks and should be made a matter of nience. Neither the walks nor rives are ornamental in them-; hence, they should not be numerous than the uses of the life call for. Curved walks and are often more pleasing than ht ones, especially where the ds are large. The curves, howshould be easy and natural; not and kinky.

Them a Picture.

home grounds may be comwith a picture in which the forms the canvas, with the the principal center of interest. Viewed in this way the house should not be hidden behind a yardful of trees, but should at least, have the front facing an open stretch of lawn. Trees, if planted near the house, are preferably placed at the sides and rear, so as to form a setting and a background for it. The usual practice of planting several rows of trees running from the front of the house to the street is only conducive to monotony in effect, and furthermore, it is very difficult to establish and maintain a lawn under such circumstances.

The most appropriate places for large trees are along the boundaries of the grounds. The most pleasing way to place them is not in straight lines, but in groups, with lower-growing kinds in front and toward the center of the grounds. It is usually desirable partly to separate the back of the yard from the front. This is most pleasingly accomplished by placing one or two masses of low-growing trees and shrubs at the sides of the house and extending them to meet the masses planted at the sides of the yard. One or more openings should be left between the dividing masses of trees and shrubs for free passages and for the glimpses of the farther parts of the grounds. A stronger massing of trees and tall shrubs may be used in the proper position to shield the house from the prevailing winds.

By using a variety of trees with tall shrubs next, and smaller shrubs in front, a most effective wind break may be formed, and by planting the latter in irregular groups a much more pleasing effect is possible than where all are placed in formal rows. Wherever fine views of the distance are in danger of being shut off, openings should be left or made to retain them, especially such views as may be seen from porches and living room windows. Evergreen trees are most desirable on the north and west, because of their effective wind-break qualities in winter. They are not suitable trees for the south side of a house or in front of windows. In winter the sunshine should be given a free chance to enter the windows and thereby greatly add ont only to the cheerfulness of the rooms, but also to the lowering of the fuel bill.

Group the Plants.

The smaller shrubs and flowering annuals are best placed in the corners by the porches, along the base of the house wall and in front of the larger plants at the sides of the lawn. Groups of such plants on either side of the entrance gates are usually very pleasing. Avoid planting single shrubs or bushes or other plants promiscuosly about the lawn. The pleasing, distinctive character of a place can be secured only by leaving large open places where nothing but green grass is allowed to grow. If the whole place is dotted full of single specimens and small clumps, the effect is patchy and fussy, where it should be dignified and natural. Specimen plants, if used at all, should be planted sparingly and not set in the most conspicuous places.

Flower beds cut out of the lawn are best avoided. They break up the stretches of green, are difficult to keep in good condition, and leave unsightly bare spots in winter. Such flowering plants as are not suited for planting in the front of the shrubbery borders and about the porches are best kept in a flower garden at the rear or side of the house.—B. O. Longyear, Associate Professor of Botany, Colorado Agricultural College, Fort Collins.

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California Horticulturally

SAVE THE BIRDS.

WE NOTE the usual outcry from some sources against birds, — and the meadow lark especially is being condemned, many farmers claiming that it is taking all the sowed grain out of the soil. We do not know how far the charge is true, but it is a fact that birds are one of the greatest balances in nature, and that without them we should be devoured by insect pests. Some birds are both frugiverous and insectivorous, others gramniverous and insectiverous, but in either case grain or fruit is a diet resorted to largely when there is a scarcity of their natural insect food. The meadow lark is one of the best of the insect eating birds, and its work in the soil is largely in search of the larvae of insects which would destroy the grain roots were they not removed. The English sparrow is another bird which is severely denounced, and hasn't got a friend in the town, yet we have watched these little fellows by the hour after sundown and seen them catch injurious moths by the hundred, catching them on the wing as they darted past. The Phoebe, the wren, and, in fact, the great part of our common birds are more beneficial than injurious, and in killing them off we shall destroy the balance of nature and have to resort more and more to the more costly and expensive method of fighting our insect pests by artificial means.

PROFIT IN FIGS.

Since the introduction and the successful establishment of the fig wasp, through the efforts of George Roeding, and which has made possible the production of figs in California equal to the best imported from the Mediterranean, the culture of this fruit has taken rapid strides, and is growing in popularity each year. This season there have been very large new areas set out to figs in both the Sacramento and the San Joaquin valleys. The Smyrna fig is a very delicate fruit and subject to sudden changes of temperature. It will not give as good satisfaction in the coast counties as in the interior valleys for this reason. On the coast the sea breezes modify the temperature, and the evenings are cool as soon as the sun is down. In the interior the evenings do not cool off so suddenly and the fig grows unaffected by the change. Conditions here are perfect for it and from present prospects it will not be long before California will produce all of this fruit that will be demanded in the United States and have a surplus for shipment.

A NATIONAL HORTICULTURAL QUARANTINE.

The fruit growers of the State at their convention have given an endorsement to a national quarantine on all imported vegetation, in order that our orchards may be more effectively safeguarded from imported pests. A strong resolution was offered at the last convention at Marysville, and this was sent to all the members of our delegation in Washington. We note that Senator Perkins has submitted these resolutions to the senate and that they have been referred to the Committee on Agriculture, of which the senator is a member. It is not improbable, therefore, that some action in the matter will now be taken. If could have a good entomologist s tion at each port of entry in t United States with the assurance t all imported plants and trees w be conscientiously inspected be admission, we should be well as against the introduction of any foreign pests of our orchards.

DESTRUCTIVE WORMS IN PA TURES.

There is a very serious and usual plague of crane flies in the tures of many sections in the no ern part of the State this sea These pests in their larval state a pear as grubs in the soil and about half an inch in length; t feed on the grass roots, and are thick in many cases that the gr has been killed out, and the spots which it is worst look as though th had been swept over with a blast. Like all subterranean pe the larvae of the crane fly is v hard to reach, as it is protected the covering of soil, and working, it does in the heavy grasses, is v difficult to get at. In cases where is so bad as to destroy the gra in grain fields, for it is often d tructive here also, plowing in June an July is advisable. This exposes larva to the hot sun and kills them subsequent treatment of gas li from three to four tons to the acre, also effective.

SPRING FRUIT GROWERS' CONVENTION.

It has been definitely announc that, in accordance with the res tion passed by the last Fruit Grow Convention at Marysville, a s session is to be held and Riv has been selected as the place will open on Tuesday April 2 continue until May 1st. A mo cellent working committee ha matter now in hand, and there question but that this will be o the most instructive and best at ed conventions ever held in thi of the State.

NO DANGER FROM OVERPROD TION.

The cry of overproduction is a indication of market condi When there is a poor market small prices, we always think the other fellow should dig up vines and trees, and that all t who think of going into the business should be warned to When, however, there is a good ket, we forget the bugaboo of production and the cry is not So, for a year past, we hav heard of overproduction in frui it is a fact that, with all our o California was not able to supp demand. Prices have been good, a those who had fruit for sale h made money. There has been a l impetus given to new planting a the fruit growing acreage of t State will be very largely increas Markets will fluctuate, seasons w differ, some will be good and so poor, and this will be the case whe er we grow much or little fruit; b taking one year with another, a fruit growing properly attended will pay and not until every one the country has all the fruit he she may want will there ever be d ger of overproduction.

ueries and Replies

estions to be answered in this department should be received at this office e week before reply is expected. Write plainly on one side of the paper and n full name and address. Unsigned communications receive no attention.— d.

h.

nclose a plant which is growing g my stock beets in sandy soil. t is it and is it valuable to the C. E. G., Hynes.

e plant which you send is a vetch is so valuable that it is large- sed as a cover crop in deciduous citrus orchards. The seed is ly secured from the North though found in practically all sections e State. To secure its greatest it has, of course, to be grown turned under, where it is allowed cay in the soil.

er Coat.

ase tell me what oil to put on a slicker coat and how to apply it top the leak."—Sulphuret, River-

e are unable to give the informa- desired and ask any reader of the vator who can help the inquirer, mmunicate. One suggestion has made that fish oil applied would mplish the work, but we imagine dor would be such that the wear- ould not be received into polite ty.

ers.

ase give the best remedy for de- ing pocket gophers. Also how I rid my place of Johnson grass? d that I can dig it out of the nd and lay it on the fence where ill dry for weeks, and if blown y the wind it will sprout and . My patch is only about 6 feet re and I do not wish it to spread more.—Subscriber, Fortuna.

bscriber is asking two very hard tions, and we can only give hints h may be of value. The gopher be destroyed by traps, which is surest, and likewise the slowest, s we answered recently, in these mns, by poisoning by a very small tity of strychnine in the center of isin or in a slit or a freshly cut to. Be sure and not make the to bitter by getting any of this de. Insert the poison baits in the and close. Another method is by ing the pest to death with a er smoker. This works very well ground squirrels, while with ers it is not so successful, though e maintain they have succeeded y well. It is persistent work that mplishes results with the gophers.

garding Johnson grass it is best to use a weed cutter or even to go ugh the bunch of grass as the s dragged out are carried and thus tered over a large area. If we had, he writer says, only a six-foot h, we would go through it two or e feet deep in the ground with el and a screen, taking up every particle of root possible to find. ould cost something, but would ent vastly greater cost in the fu- . If the location is such that you not care for the use of that par- lar portion of the ranch for a few s you can cover a few inches deep cheapest grade of salt to be se- d. This treatment has often been n to wild morning glory, but is lc, for, bear in mind that any such tment you give to eradicate the will likewise kill any other plant he same soil.

Beet Tops.

Please answer through your valuable columns: Does feeding sugar beets with tops on have a tendency to dry up milch cows? W. W. L., Gridley.

No, it was the sugar beet tops that first filled the silos of Germany. There is no better feed than beets for cows. The drying is probably due to the cows not receiving enough nutriment from the watery character of the food. Give them some good alfalfa or other hay with the beets. If they will pay for it, feed some grain.

Worms.

My mare is badly troubled with worms. Is with foal. Will administering remedies have any risk? Is very hard to drench. Can I give remedy in feed? What is remedy? T. H., Los Angeles.

Go to the drug store and buy some of the Humphreys remedies. These are added to the grain feed. M. E. S.

Grapes on 'Dobe.

What kind of grapes is best to plant on land 2½ miles from Santa Rosa on heavy adobe land? Subscriber, Santa Rosa.

For table grapes, we would plant Purple Cornichon. For white wine grapes we suggest Petite Sirah, Cabernet Savignon, Tennat, Serine, Mondaus and Blue Portuguese. For white wine, Semillon Colombar, Savignon Vert, Sauvignon blanc, Franken Riesling, Johannisberger and Traminer. This wine list has been recommended by Prof. F. T. Bioletti, who has been over the whole wine-growing districts of the State and is familiar with the conditions.—J. W. M.

Kraut.

Please tell me how to make sauer kraut? Also how to plant and grow asparagus.—C. M., Arroyo Grande.

First scald your stand, cutter, stamper and tub. Remove the outer leaves of cabbage, cut in halves, remove heart, and then cut. Lay some clean leaves in bottom of stand (vessel for holding kraut,) sprinkle with handful of salt, put in half bushel of cut cabbage, stamp gently until juice just appears, then add another handful of salt; and so on until the stand is full. Cover with cabbage leaves, put a clean board on top that fits snugly, and on this a heavy stone. Keep in cool cellar. Ready to use in about six weeks. Cut the cabbage coarse.

Poisonous Plants in Pasture.

Can you give information as to poisonous plants in pasture? H. E. T., Metz.

Mrs. Sherman says she has no experience on this line. Can any subscriber give information? Of course, all know of rattle weed, which some have carefully removed from pasture when horses frequent it.

Sore Ear.

I have a cat which suffers from sore ears. Will you kindly let me know what to do for her? The hair is all off and evidently they itch badly, as she scratches often until they bleed. I have been treating with an ointment used for sore shoulders on work horses. D. P. W., Moorpark.

We infer this trouble is entirely on the outside and that an application of

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4 per cent. solution of creolin, also of carbolized vaseline or any carbolic salve will be good. If the interior of the ear is affected drop in sweet oil in which a small quantity of eucalyptus oil has been mixed.

Contagious Abortion.

Please give something in your paper as to contagious abortion and also any way to prevent it. I have also a young horse troubled with worms. How can I rid it of them? M. G., Ferndale.

The Cultivator of October 10, page 344, gave instructions regarding the handling of the first-mentioned trouble, but in a word you should at once remove the animal that is troubled from all stock, keep the stables thoroughly cleaned, using abundance of lime scattered about, washing the animal affected with an antiseptic solution of cresol of 2 per cent. strength. A douche may be administered and thorough external cleansing should also be given occasionally.

Regarding worms affecting the horse it is difficult to give any definite advice until more is known, as there are many varieties infesting stock. But assuming it is an intestinal worm proceed as follows: After a fast administer twice daily for two or three days a drench composed of turpentine or creolin one ounce, linseed oil two or three ounces to be followed on the fourth day by a physic of Barbadoes aloes one ounce, Or you may give santonin two to four drams with calomel one to two drams. This does not need to be repeated, but to be followed in six hours by a quart of linseed oil.

Bermuda Grass.

What is the best way to get rid of a patch of Bermuda grass? Will distillate kill it? And how much will I have to put on and would it kill peach trees that are growing in the Bermuda?—W. B. E., Rudley.

We do not think it advisable to use distillate. If used in quantity to kill the grass it would unfit the soil for the peach trees as well. Thorough cultivation will do it. But it must be thorough and often. The writer once had a patch of it in an orchard which was eradicated in one season. A hydrant, with a barrel under it, had encouraged its growth for a patch about a rod square. The barrel and the pipe were removed and though the old sod was thick and tough, a stout team, with good, sharp cultivator teeth, had it completely killed out in a few months. But, bear in mind, that spasmodic going at it with a vengeance one day, then allowing it to grow for several weeks again will not accomplish it. Give it a weekly cultivation.

Gypsum.

I notice in queries and replies in a recent issue, that you advise 1000 pounds of gypsum to an acre of alfalfa. Now, here in Stanislaus ocunty we do not use more than 100 to 200 pounds to the acre and with good results.—D. F. Conant, Modesto.

Renewing Lemon Trees.

May I trouble you to give me advice regarding my lemon trees? I recently bought the place with 15-year-old trees—Eureka and Villa Franca. They have been neglected and are badly infested with scale, which has been attended to by fumigation. I have also fertilized, but am at a loss as to pruning. Some say cut heavily, others only remove suckers.—R. S., Fillmore.

The article by Mr. Jones in the issue of February 13, is the best answer to the above. We would not "cut heavily" nor would we be tent with only keeping out the s ers and keeping fairly clean brush. Follow Mr. Jones' inst tions, or better get experience working with experienced prun for pruning cannot be picked up once.

This orchard would doubtlessly greatly benefited by deep plowing a heavy cover crop next season.

Electrical Alarm Thermometer.

A subscriber wishes to know wh to secure the electric alarm mometer.

The only one which we know o the Bolton alarm, which may be by addressing J. P. Bolton, Fresn

Securing Patent.

Will you please answer the foll ing questions through your valu paper: Is it really necessary to tain an attorney in getting a pate Are there any other patent office the United States besides at Wash ton, D. C.? Are there reliable pa attorneys in Los Angeles; if would you kindly give their na and addresses?—M. L. H.

It is not necessary to have an torney. But unless one understa the entire procedure, we doubt there would be more cost and liab to error and consequent loss w would more than offset the attorn fees. Hence we would by all n employ an attorney. There is b one patent office. There are rel a patent attorneys in Los Angeles. James R. Townsend, 428 Bradb Building, is entirely reliable

Old Cans for Plants.

In the "Cultivator" of Jan. 3 1908, I saw an article from J. C. Ontario, asking for a practical m od of handling small plants. I w like to give my experience in line, which may also be beneficia others:

I take tomato cans, corn cans condensed milk cans or even s lard buckets, melt off both leaving nothing but the ring or of the can, set them in some venient place and nearly fill w finely pulverized soil or fine and plant your seed, two or thre a can. I slip my rose bush cut grape cuttings, in fact, everyt in the cutting line, tomatoes, cuc bers, etc. When time for plan slip a spade under the can, carr to where it is to be planted, sl knife blade inside the can to free soil from the can; set the plan the ground, pack the earth clo the can and carefully remove the up over the plant, and the p will never know that they have disturbed. These rims or cans be used two or three times.—Mr L. Ownbey..

Cottony Insect.

I have a tree with an insect w looks like a small bit of cotton breaking find it has red eggs in i the ladybugs works on it; som it cottony cushion. Is it harmfu the trees or grove? I see no ence in the tree yet. Answer t questions through your paper.—C R., Lindsay.

Is it a citrus tree? If so, it may cottony cushion scale. In that c send to the State Horticultural C missioner at Sacramento a sampl it and he will return to you a col of the little vadalia, which will c out the pest to the queen's taste

Spray for Codling Moth.

Can you give me informa through the Cultivator about spray apple trees? When should I sp How is the liquid for spraying m is this spray good for woolly s where it is on the branches of trees? Also is there any danger etting poisoned by eating apples trees that were sprayed when in som?—A Subscriber.

r codling moth spray when bloom ropping, with one pound Paris n, three pounds lime and 200 gal- of water or three pounds arsenate ead, 50 gallons of water.

hat should be followed in two or e weeks with another application. re is no danger from eating the ap- of sprayed trees. This would be o value on the aphis. For that y with kerosene emulsion or le oil soap.

ter Sprouts.

have a three-year-old orange e that has a growth I call water ut or straight growth on the body also on the large limbs, a quick th that will get from six to eight long. Should they be cut out or ? Answer through your paper.—A scriber, Lindsay.

eep water sprouts off the tree n they are young, say one to two long. If they are allowed to grow and monopolize the tree, then it is etimes best to remove the remain- of the tree, but this only in rare s. Keep them out before they to be so large.

fting Walnuts.

ill you kindly favor me with your ion as to whether it would be ad- ble to bud a two-year-old seedling lish walnut orchard to a good ted blight-resistant variety? What ety would you recommend, and re could likely obtain the buds cions.—H. A., Los Angeles.

would be best to graft over your nuts to resistant stock, but we do think scions can be had this year all that propose to begin that k. However, you will lose nothing keeping your trees in a vigorous dition for another year or two rs, if you do not find resistant ns sooner, as they will be making ts and the top will soon form when scions are once in place.

d for Young Work Horses.

ill some one who has had actual erience in feeding young work ses barley, reply. Have two very heavy horses three years old in il which we have broken to work, wish to take the best of care of m. How often should they be fed ley and how much? Fed only on lfa hay.

e do not think the alfalfa will be nd satisfactory for the work horse. d barley and wheat hay. As to erience with young horses on in, will ask our subscribers to send experience as to amount. A work- horse should surely have some in, though we have seen a team do t work on good barley hay.

d Bed for Sweet Potatoes.

ill you please tell me how to pre- e a seed bed for sweet potatoes? many potatoes will be required an acre of ground? How far apart uld the plants be set in the row? ee article in issue of February 13.

ipping Grape Vines.

want to buy roots of Muscat grape es to be shipped from the counties th of Tehachepi, probably Placer ., to San Diego county.

o you know of any reason why h vines cannot be shipped and de- ered as aforesaid? If there is any son, what will it be necessary for to do to get such vines? Is there one south of Tehachepi who sells h rooted vines?—Subscriber, San go.

he vines will have to be insepcted the receiving station by the county pector. If you do not know who the inspector is of your district write the County Horticultural Commissioner at San Diego and get instructions. There are nurseries advertising in Cultivator handling such vines.

You should buy subject to their passing inspection by your own county inspector.

LEATHER INDUSTRY AND THE FOREST.

No other nation produces half as much tanned, curried and finished leather as the United States, which yields over one-fourth of the world's supply. Six hundred and seventeen tanneries contribute to this output. The raw material includes a hundred and eight million hides and skins, including a large number from Argentina. To tan this immense quantity of leather, valued at over 250 million dollars, last year required over a million and a quarter cords of tanbark, worth nearly $13,000,000, and more than six hundred and fifty thousand barrels of tanning extract, worth $8,700,000.

Over two-thirds of the tanbark consumed comes from hemlock, and over one-fourth from oak; chesnut and other woods contribute the remainder. More extract is secured from chesnut, however, than from all other domestic woods combined. A small quantity of extract of a little over a thousand barrels comes from the roots of palmetto.

Although the tanning industry is widelly distributed over the United States, the greater part of it is carried on in the States of Pennsylvania, New York, Michigan and Wisconsin, which use more than two-thirds of the tanning materials consumed. Pennsylvania alone consumes over nine hundred million pounds of bark and extract worth $8,000,000, or 37 per cent of the total value.

Since 1900 the quantity of tanbark used has fallen off 15 per cent, although its value has increased. During this period the consumption of extract increased from $67,000 to 660,000 barrels a year, of which nearly 90,000 barrels were imported. Relatively small quantities of hemlock bark were imported from Canada, and of mangrove bark from the West Indies and Africa. In weight, four times as much quebracho was imported in bark as in extract form, but the value of the two forms was about the same.

Bark brought the lowest price in New Hampshire, and the highest in Oregon, with an average of $9.30 per cord. More than in bark the price of extract varied widely according to the material from which it was manufactured. The extract of quebracho, a tree of Mexico, Central America, South America and the West Indies, from which seven-eighths of all imported tanning materials are secured, had an average price of $18 per barrel; and hemlock brought $12.60 per barrel; oak $9.90 per barrel and chesnut $9.12 per barrel.

Statistics of the consumption of tanbark and tanning extract in 1906, gathered in co-operation with the Bureau of the Census, are given in Circular 119 of the Forest Service. This publication can be had upon application to the Forester, U. S. Department, Washington, D. C.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

TAX REDUCTION.

Alabama has been in the limelight with her temperance legislation during its recent special session. That same special session passed another admirable law, which provides that if owners of timber tracts, when cutting them for lumber, will refrain from felling trees of any smaller diameter than twelve inches, and will preserve the land afterwards for reproduction of the forest, they shall be allowed a smaller rate of taxation while the second crop of timber is growing. A list of these lands is to be filed with the State Tax Commission. Provision will also be made to encourage the growing and planting of timber.

This action is in harmony with the government plan to make provisions for the Appalachian National Forest, which will extend into the northern section of Alabama. The idea as formulated, however, makes forest preservation a State-wide scheme, in which small and large land owners are to be equally encouraged. By its workings it is hoped that hundreds of thousands of cut-over timber lands will be cared for and replanted, and come into productiveness again in ten or twenty years.

The Utah State beekeepers are to meet at Salt Lake City, April 6th. There will be an election of officers and discussion of matters of interest to the industry.

It is reported that more extensive plantings of pineapples will be made this year in the Hawaiian Islands than ever before.

THE BROWN BOOK.

One of the best things that ever happened to the irrigator was the invention of the "K T" valve, which was invented by Messrs, Kellar & Thomason, practical irrigators and manufacturers of cement and other irrigation appliances. When first invented the manufacture was taken up in a very small shop on the ranch, but more recently, as will be shown by engravings which the Cultivator hopes to give later, fine, large shops were erected in the city of Covina. This has come about through the fact that these appliances are so perfectly adapted to complete control of the water with most economical handling, that the sales have been extended beyond precedent.

The needs of irrigators have been continually anticipated and until now the slogan of the firm is "everything for the irrigator." This valve should be seen to be appreciated, but in case you are some distance away, a card dropped to the Kellar & Thomason people at Covina will bring descriptive and illustrative matter, which will give a very clear idea. Especially would we advise you to ask for their "Brown Book." It is entitled irrigation and gives some little information regarding the valves in question and also valuable details regarding capacities of pipe which aid one in determining the size of pipe to carry in a given head.

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J. B Wagner
The Berry and Rhubarb Specialist Pasadena, California

General Agriculture

USE OF CALIFORNIA PRODUCTS IN HOTELS.

In his address before the San Francisco Hotel Men's Association, at its banquet held at the Hotel St. Francis in San Francisco on the evening of February 8, on which occasion about two hundred hotel men from all parts of the Pacific Coast were present, Dr. Clarence E. Edwords of the California Promotion Committee, spoke of the great benefit hotels could be to the State if they would pay more attention to giving good fruit and wine and other distinctively California products to their guests at low rates. He said in part:

SOME TALL CORN.

"A grevious complaint is frequently heard from visitors to California against our hotels because they serve poor fruit and charge high prices for it. California is noted the world over for its magnificent fruits, and when people come here they expect to find the best of it on the tables of the hotels and restaurants, at such reasonable prices that they can enjoy all they want of it. The same criticism applies to our wines. California wines and fruits can be had in hotels of the East in better quality and at lower prices than in California hotels.

"Through the efforts of the California Promotion Committee many Eastern hotels advertise on their bills of fare 'California fruits' and 'California wines.' They know that these names will win atention. I understand that it costs something to serve fruit and have heard and appreciate the objections raised by hotel men, but I think that if the hotels would serve the best fruit, even at a slight loss, they would help to build up a better business. France is noted the world over for its good and cheap wines; Germany for its beer; Spain and Italy for their fruits. In none of these countries can they equal what California has to offer, and if the hotel men would take this matter up as a question of State pride, they would assist materially in building up California.

"You have a Hotel Men's Association here in San Francisco. If you will take that as the nucleus and form a Pacific Coast Hotel Men's Association, and when you have done so, stand together to exploit Pacific Coast products on your tables of such quality and at such prices as will commend them to the traveling public, you will accomplish one of the greatest benefits than can come to this coast. It has been the province of the California Promotion Committee to work toward such a commercial combination of all the interest of the Pacific Coast States, and if you gentlemen who care for the travelers will form such a combination, it will go far toward solving many of the problems that now confront us."

A man with his nose to the grind stone rarely keeps a cool head. A people in bondage are not wise.

DISC OR MOLD-BOARD.

Shall I buy a disc of a mold-board plow? is a question frequently asked by the farmer. The condition under which the plow is expected to operate must help answer it.

All farmers are acquainted with the mold-board plow and know how to operate it to the best advantage. The disc plow, on the other hand, is a newer invention and has not been used so extensively. It is harder to operate successfully and, for that reason, has not given the general satisfaction which should be obtained. The use for the disc plow, however, is gradually growing, and in a few years it will have almost as large a place, especially in the Western States, as the mold-board plow.

Under similar conditions, the disc plow is of lighter, draft but this difference is not so much as is often claimed by the manufacturers. Rolling friction makes it pull somewhat easier than sliding friction. Because of the rolling motion of the disc and its cutting effect, it is not so likely to clog as the mold-board plow. What the disc cannot cut it will roll over.

The disc is capable of plowing ground that has become too dry and hard for the mold-board plow. This is oftentimes of much value, as it is not necessary to wait for rain, and the seed can be planted at the proper time.

For humid sections and irrigated lands, the mold-board plow must be considered superior. Under favorable conditions for plowing where the soil is not too dry, the mold-board plow pulverizes and turns the soil more satisfactorily. It also handles sod to better advantage.

To do the same amount of work, the disc plow will require very little sharpening compared to the mold-board plow. This makes the running expense of a disc very much less than that of a mold-board.

The diameter of the disc should not be too large. A 24-inch disc for general use is to be preferred to one of larger diameter. The 24-inch disc will pulverize the soil more than a 28 or 30-inch one. The draft is a trifle more on the smaller one, but the difference is more than made up by the class of work it is able to do.

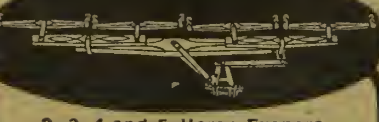
The disc should not cut too wide a furrow. It is far better to use two discs 24 inches in diameter, each one cutting 8 inches in width, than to use a 30-inch disc cutting 14 to 16 inches in width. Taking a narrow furrow tends to make the bottom less corrugated.

Plowing the same ground year after year with the disc does not keep it in so good a condition as if plowed with a mold-board plow.

The mold-board is generally considered best for humid and irrigated sections, and the disc plow for dry or semi-arid sections.—H. M. Bainer,

TECHNICAL SECONDARY EDUCATION.

During the last session of Congress Representative Charles R. Davis of the third congressional district of Minnesota presented to the lower House a bill known as H. R. 24,757. This measure is designed to promote throughout the States and Territories technical secondary education in agricultural, mechanical arts and home economics. In brief, it purposes to extend the provisions of the Morrill



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ngressman Davis introduced bill during the closing days of last session and, therefore, there no time for that body to give ideration to its provisions.

mmercial clubs, boards of trade, ators, farmers' organizations, ers' institute lecturers, manu- urers' associations, technical in- ctors and teachers in agriculture, hanical arts and home economics— act, practically all agencies and nizations, as well as hundreds of viduals who are interested in loping a saner, broader and e practical education for the ses of our people—at once be- e interested in the Davis bill and red to co-operate and lend all ible assistance to secure the pass- of the measure.

t this session a new bill, H. R. 534, been introduced, and is being hed by its friends in Congress, urged by farmers the country

E BEST COAL IN CALIFORNIA.

he best coal on the Pacific Coast th of Washington is unique as to geologic age. Early in Tertiary e, ages after the carboniferous osits that formed the great coal s of the Eastern and Interior tes had been laid down, Stone yon, in the southeast corner of nterey county, California, was the of a marshy tract in which re gathered the materials that are hardened into an extensive bed bituminous coal. The bed is ut 15 feet thick and has been ced for several miles. It is mined two openings, but no shipments ve yet been made, owing to lack of lroad connections.

This coal bed was described by Ralph Arnold, geologist in the ited States Geological Survey's lletin No. 285, and a brief account its geology, by Mr. M. R. Camp- ll in charge of investigations, is w published in Bulletin No. 316 ontributions to economic geology, 06 Part 2, coal, liginite and at). Analyses of the coal by Mr. M. Stanton, are also included. e analyses show that it is a good -making coal, of excellent heat- g power. It contains little moist- e, but considerable sulphur. Sev- al hundred tons are now piled up the mine awaiting the construc- n of a railroad, and as the coal is rd and does not slake it should and transportation well.

The successful farmer of the date ee of the desert in California is al- ost as great a triumph as the suc- ful introduction in the past few ars of the Smyrna fig. Some pack- g and shipping of both soft and y dates may be done this year. ltimately, it is expected that the te will form an important addi- on to California's fruit product. So nfident of commercial success are ose who have been watching the te experiments, that considerable anting has been done by private owers.

The region selected for the experi- ent is the Coachella valley, west of alton and north of the Imperial val- y. There is no reason, experts say, hy it should not be covered with riving date plantations that will roduce the larger part of the fruit, ll of which is now imported.

A STRONG INSTITUTION.

The Security Savings Bank, which is the oldest and largest in Southern California, having a capital and surplus of $1,200,000, over 45,000 depositors and total resources exceeding $21,000,000, occupies the ground floor and basement of Security Building for its banking and safe deposit business. The main banking room on the ground floor has a frontage of 120 feet on Spring street side and of 126 feet on Fifth St., and its height from floor to ceiling is 25 feet clear. The arrangement of this room is designed to afford the maximum amount of service and convenience to the Bank's patrons, and to permit the business being carried on with the utmost economy and efficiency.

On the main floor are two large vaults, one for coin exclusively and one for books and documents. These vaults constitute a structure entirely separate from the main building. They have their own foundations, their own walls and their own ceiling. Being built to stand alone, and of such construction as to resist any conceivable attack or accident, these vaults would remain uninjured no matter what disaster might befall the main building or its surroundings. With burglar, fire and earthquake experiences in mind, the designers of these vaults aimed to produce a vault structure that would be proof against all three. The following brief description of the vaults will show how effectively this has been accomplished.

Safe Deposit Department.

In the large room directly under the banking room, is a most beautiful example of marble interior finish. The staircase and column designs are particular impressive as samples of skill and artistic conception in this line. In this room is located the Safe Deposit Department consisting of one vault containing 25,000 Safe Deposit Boxes, and another large vault to accommodate storage of trunks, silverware and, in fact, packages of any description. In construction the vault walls; floors and ceilings and doors are similar to that of the upstairs vaults.

Arranged around the room are twenty booths, all of them much larger than the ordinary booth in other Safe Deposit Vaults. Ten of them are 10 feet each in length by five feet in width, four of them are seven feet by 14 feet each There is also a large room 14 by 20 feet for use of directors, stockholders, etc., of any companies that may desire to use same for their meetings. There are also large consultation rooms, each 15 feet square, one being for men and one for women. The booths are all mahogny and equipped with a patent coupon-room door device which safeguards patrons against loss of papers accidentally left in a booth, as no booth can be used again until it has been opened and inspected by an attendant.

Access to the Safe Deposit Department is very convenient. Two of the main passenger elevators in the corridor of the Security Building descend to these Vaults each trip. There is also easy access by way of the large marble stairway that leads directly from the south door on Spring street. Entrance to this stairway can also be reached from the Banking Room.

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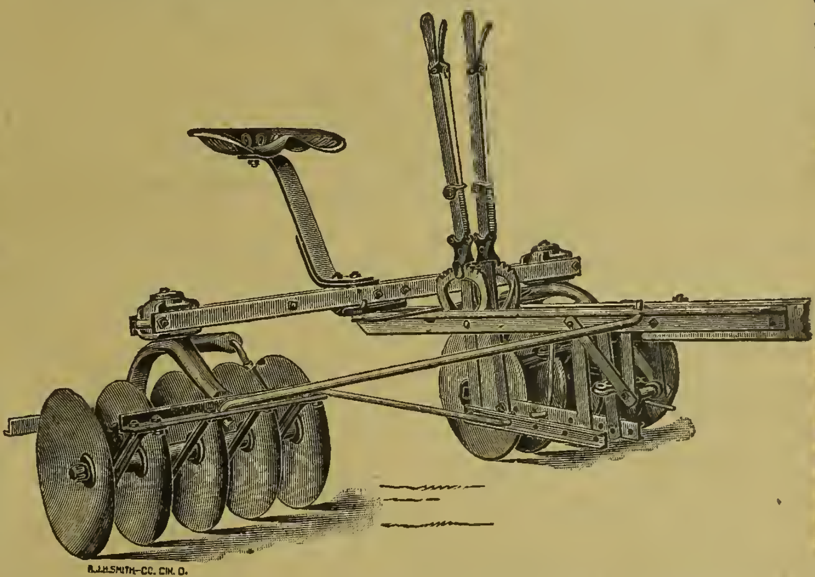
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THE UNIVERSITY FARM.

The following excerpts are taken from an address by Prof. E. J. Wickson at the State Farmers' Institute held at Davisville, recently:

We expect to realize for the University of California the greatest institution for agricultural research and instruction in the world.

No State or country is superior to California in natural adaptation to greatness in agricultural education, because no State presents agriculture in so many phases.

Agriculture is specially mentioned as one of the leading subjects to be taught at the State University, that the scientific knowledge essential to the success and prosperity of agriculture may be better known and more easily and quickly applied and with more immediate and more certain beneficial results . . . so that the University may send forth a tendril of thoughtful, helpful and affectionate regard to every acre of soil within the State.

Let there be no question, that it is the ambition of the administration of the University to make its facilities for agricultural research and instruction the greatest in the world. Whatever is fully true to California opportunities certainly has a start in that direction.

There is no State nor country with a population which needs such wide demonstration of agricultural science and such varied instruction in agricultural practice. Coming from all parts of the world, eager to adapt their agricultural experience to California conditions they are most appreciative of accurate local knowledge and anxious for the fullest possible enrichment of it. They are ready to provide for it most generously by State appropriation and by princely private donations. California is unique in the enthusiasm, appreciation and generosity of its agricultural constituency.

Nor is there any State in which agriculture is held in such high interest and respect by the non-agricultural population; and none in which the agriculturist holds such high rank socially and financially. What the California farmer thinks of his enterprise and investments and what his fellow-citizens think of them constitute agriculture a higher calling in this State than elsewhere. Upon such a foundation an institution which is true to its opportunities must be uniquely great and influential.

FARMERS' INSTITUTE.

Conductor Neff announces an important Institute to be held at Whittier for four days beginning March 17, 18, 19 and 20. It is to be the most important event in institute lines in Southern California this year. President Wheeler and Prof. Wickson are both billed to be present.

The first day will be devoted entirely to vegetables. The second day will be walnut day; the third day be given over to the inauguration ceremonies for the new pathological laboratory building and the fourth day will be entirely on citrus questions.

Eminent speakers will be on each day's program. A special feature of Wednesday evening will be a banquet to be tendered the attendants.

DRY FARMING.

When the arid districts of the country shall have become awake to the practical advantages of dry farming, the scarcity of rain will have little effect on the average production of those districts. Dry farming, as it is called, which is really intensive farming, and has been in vogue for half a century in sections of the old world, is merely continued cultivation, working the soil often to conserve moisture. In the United States this system has opened to cultivation more than 700,000,000 acres of land which was regarded as practically useless. Paying crops are raised on 4,500,000 acres of semi-arid land now under active cultivation and farmed, in large part, under what is known as the Campbell system. In California, Colorado and Arizona, it has been found that it is easier to produce certain crops such as corn, beans and vegetables, under this system, than by irrigation.

When the whole semi-arid region of this country is once put under the dry farming system we shall raise crops without fear of rain shortage, and we shall find, too, that the cereals and vegetables so produced are of a higher value as food products than they would be if produced under artificial water conditions. The quicker we adopt intensive farming the less worry we shall have concerning the annual rainfall.

GROWING SEEDS.

The time is at hand again when growers will be selecting seed for general crop purposes. Indeed, it may be a little late, even now, to offer advice on this subject for this season. However, the subject is always in order from a cultural standpoint and ought to be studied with signally more care if we are to derive the highest results from our standard crops.

In order to obtain the best seeds, we are clearly of the impression, and such authorities as the superintendents of our agricultural experiment stations support this declaration, that the grower should be a plant breeder, because of the necessity of carrying out the ideals of a breeder in increasing any special stock for seed. With many crops the breeding and seed growing operations are so closely yoked together that is is impossible to carry on one without the other. No one should attempt to undertake seed growing operations with either sweet or field corn unless he is conducting breeding operations at the same time and in connection with the growing of the seed for sale. With the small grains the practical farmer or seed grower on a large scale cannot without very much additional expense conduct any more than ordinary selection work in connection with his seed growing. Many growers, however, altogether overlook the selectio
simply grow seed of farm crops for seed pu
the same as they would grow them for or
market purposes. By this we do not mea
every one who undertakes the growing of
farm or garden seeds must go into the proc
artificially hybridizing different strains of
with which he is working, or that he mu
into all the details in connection with the
ing of plants that are taken up by the Agricu
Experiment Stations. He should, however,
a position to carry out the ideas of the b
who has brought the varieties or strains
growing into existence and should be able to
tain the vigor and productiveness of his see
well as quality by the very best methods of
production possible.

But we do mean to say that the g
should with all grain crops take the greates
sible pains to thoroughly grade and clea
seeds from which his crops are grown, have
stock from which he grows of high germin
and strong vitality, should keep all seeds
both by care to avoid mixture in handling a
conducting special selected increase plots
which to grow all his stock seed. All these t
can readily be done, but they require time
expense and many of the older growers
disregarded most of them.

Not long ago Mr. Coburn, the Agricultural
missioner of Kansas, wrote a stirring appe
this subject, pointing out the vital necessit
growers of alfalfa seed exercising utmost ca
the seed they put upon the market. He
that Kansas is overrun with dodder which
sown with alfalfa, and that irreparable dan
is being done the State by the almost crin
carelessness of seed growers. What is tru
Kansas is equally true of every other State
also, in great part, the cause of degenera
crop receipts.

In this connection we quote an authority
a South Dakota Station. "I would," he
"certainly advise every farmer or seed gr
as far as possible to test his own seed instea
relying upon others to do it for him, but the
ernment Stations offer opportunities to verif
results. The stating on the labels or package
seeds where and when they were grown, the
mination test, and when it was made, is a
departure in seed handling. It entails consi
ble more expense than the ordinary method,
it should be worth the additional cost."

We deem this advice well worth accepting,
it will prove of far-reaching value when the
vest comes.

Shop Talk

CHANGE OF ADDRESS—It often happens
subscribers change their address and desire
we make correction on our mailing list. In
connection we would like to remind our rea
that in requesting such change it is always
essary to give the old address to which the
has been going. We cannot find your name
our list without knowing the postoffice to whi
goes. If you do not do this it will cause delay
cause we must write back for the informa
Also give us as much time as possible to
changes, because we are not always able to
them the same week in which they are rece
Owing to the large number of names on our
we must revise the lists several days before
day of issue.

REMITTANCE—Along the line of our stat
of two weeks ago, in this column, regarding
new postal regulation, we desire that all our
scribers pay attention to their date of expira
and assist us in keeping within the law by re
ting in advance if possible, or at least respon
promptly to a notice by mail or an agent..

A dollar at a time is no hardship, even in t
so-called hard times, and all habits of prompt
are commendable. This date of expiration
shown on every paper you receive, and is re
sented by the figures on the address label.
first figure represents the number of month
which you are paid, and the second figure,
year. For instance, 2-08 means February 1, 1
Also after remitting see to it that we do
part by changing the date on your paper, for
is our way of receipting for the money, and i
does not change within three weeks, we want
to notify us about it. It is easier to correct
takes then than a year later.

gricultural Notes of the Pacific Coast

Northern California

umigation of orange trees is pro- ling at Colusa.

he dairy of Robert Ashburner is be sold at public sale March 14th.

lany potatoes of the lower Sacra- nto river are yet awaiting to be .

onoma and Mendocino counties e over 1100 bales of hops still in id.

oil Expert Mackie, of the depart- nt is making examinations near llows.

he Alameda Sugar Company has ured a large planting of beets near odland.

he Vacaville Reporter is discuss- the question "Can we get rid of Japanese."

ainfall at Yuba City to this time ounts to 12½ inches as against 18 hes last year.

anta Rosa sent a delegation to Cloverdale citrus fair on Wash- ton's birthday.

lany beautiful designs in citrus its were exhiibted at the recent verdale citrus fair.

he central irrigation district near lusa is involved in litigation over validity of its bonds.

veterinary surgeon at Napa has n arrested for practicing without necessary State license.

he cannery employees of the idley cannery have arranged for a picnic to be held on June 5th.

roville has had 4600 trees treated fumigation for the White Fly be- les the 7000 which were defoliated.

One of the largest water supply d power schmes ever planned in e West is materializing in Nevada unty.

A number of homeseekers are visit- g Willows, and it is expected the iry interests will be greatlly ad- nced this season.

The hop crop of the Sacramento lley for 1906 was 51,021 bales, and at for 1907 was 40,446 bales. Of is there is yet in storage 7752 bales.

Sutter county commissioners are gorously enforcing the nursery or- nance and making careful inspec- n of all trees imported into the unty.

One Gridley olive grower produced one acre of olive trees 1000 gallons prime olives, which, after being ade into pickles on his ranch, sold r $550.00.

Stock raisers of Eldorado county e very short of feed for their herds d some losses have been reported. uch feed has been shipped into acerville.

A horseradish grower at Colusa has und the raising of horseradish very ofitable. From a small patch of last year he marketed at the rate $400 per acre.

A recent issue of the Gridley Her- d produces a number of fine half nes of orange trees loaded with uit in proof of the worth of that ction as a citrus producer.

The president has just signed a oclamation creating additions to e Trinlty National Forest amount- g to 350,471 acres. The addition es mostly in Humboldt and Trinity unty.

Central California

It is estimated that 12,000 tons of raisins are yet in first hands.

The warehouses at Hollister and Tres Pinos are yet filled with hay awaiting shipment.

The Sempervirens Club, of San Jose, is taking active steps to save the big trees of the Big Basin Park.

It has been charged that some packing houses have seeded and packed some of the mildewed raisins.

An effort is being made at San Jose to secure the observance of March 7th as Arbor Day for the entire State.

Lindsay claims the ability to grow real bananas, but we presume does not claim she will ever forward very many cars of this fruit to market.

The recent rain in the San Joaquin valley, while not exactly needed, will give added assurance of a successful season.

The uncertainty regarding the sulphur ruling prevents absolutely any guesses on quotations on the coming dried fruit crop.

The Goshen, Tulare and Visalia horticultural districts marketed this season 6742 tons of dried prunes and 6822 tons of canned peaches.

Many potatoes in the fields about Stockton are still in the ground, and it is asserted that they will not all be dug until well into the month of March.

Under reduced prices the raisin output seems to be moving more freely. Fresno is now selling quite extensively and usually on the three-cent basis.

Some complaint has been made because the Sacramento committee is so long in getting the proceedings of the late National Irrigation Convention printed.

Entomologists of Central California have formed an association of county entomologists, Mr. Volck of Santa Cruz county, is president and Mr. Morris, of Santa Clara, is secretary.

In the citrus districts including Exeter, Lindsay, Lemon Cove, Naranjo and Portervile there was raised and shipped this season 2400 cars of oranges, with 175 cars of Valencias yet to go.

Well wishers of the State are more or less concerned over the reports that State Forester Lull may have authorized the destruction of some of the Redwood monarchs of the Big Basin park.

The Sonoma County Co-operative Association is making an effort to have all members sign an agreement to deliver all their eggs except those required for hatching, to be handled by the association.

Congressman Hayes writes the Grange of San Jose, that he is utterly unable to accomplish anything with Dr. Wiley on the sulphur resolution, but that Secretary Wilson gives assurance of doing everything to protect the fruit growers' interests.

The State Horticultural Commission is now concluding its White Fly work in the orchards of Oroville. The work has been in charge of Deputy Commissioner Carnes. It is asserted that the White Fly will be entirely eradicated by the thorough work.

Southern California

Oxnard rainfall amounts to about 14 inches.

Extensive alfalfa fields are being planted about Indio.

Corona's rainfall amounts to about 10 inches to this date.

Buaro, Orange county, is plowing much land for potatoes.

Extensive plantings of oranges will be made in Moreno valley.

Eight thousand acres have been planted to sugar beets at Oxnard.

A large number of eucalyptus have been planted near Redlands junction.

Escondido Packing Company is producing about 15 gallons of olive oil per day.

The peanut crop of Orange county for the last season is practically all disposed of.

The cabbage market opens at $10.00 with promise of better returns, is the report from Coachella valley.

Coachella valley has an artesian well which produces, under pumping, a supply of 100 miners' inches.

The San Joaquin ranch in Orange county will make an extensive planting of walnut trees this spring.

White laborers at Whittier are appealing to fruit shippers and pickers to give them labor in preference to the Japanese.

An Escondido paper is appealing for the growing of more bell peppers, as they have proven very profitable during the past season.

Orange county was visited by a freak cyclone last week which upset some light buildings and people's calculations on California weather.

The Santa Ana Walnut Growers' Association received for 1907, $152,567. The price reecived by the grower was $13.55 per hundred pounds.

Imperial valley farmers are demanding that part of the program of the Fruit Growers' Convention to be held at Riverside be given to desert fruit culture.

Recent decisions of the Department of the Interior have been satisfactory to the land claimants of the Imperial valley, and honest settlers feel that they will be protected.

The greatest shipment of oranges in one week out of the city of Redlands was passed recently, when a total of 299 cars and 230 boxes were shipped within the seven days.

Imperial valley has been greatly inconvenienced by a recent injunction stopping the wasting of water in the Salton Sea. This has deprived the towns of electric power and light.

Coachella and Imperial valleys are looking with much interest at a new paper making plant introduced from Africa. It is the alfa grass, the seeds of which are now being disto desert farmers.

The mountains of Southern California are now covered with the "beautiful," and the canyons are running full of water. The supply of irrigating water for next season is practically assured.

The cool weather following the recent storm was sufficient to do some injury in the lower vegetable sections, especially to some of the very early tomatoes. The extent of the injury, however, is slight.

The Coast

The new Swift packing plant at Portland will cost $3,500,000.

Walla Walla, Washington, is making war on the English sparrows.

A farmers' school is now a permanent institution of Sevier county, Utah.

The city of Denver claims the largest flock of pea-fed lambs ever marketed.

Arizona farmers are now turning their attention to the production of early cantaloupes.

A steamer from Portland, Oregon, recentlly cleared for Port Said with 217,445 bushels of wheat.

A stock grower at Pendleton, Oregon, recentlly paid $6000 for 41 head of Delaine and Shropshire rams.

The Spokesman Review of Spokane is offering a series of prizes for the best model irrigated tracts.

Wheat touched the lowest point of the season at Seattle, Washington, recentlly when it was quoted at 82½ cents.

One clearing of 1000 acres of forest trees along the Columbia river will be planted to winter apples this coming spring.

Prosser, Washington, reports that the abundant rains of this spring will give immense wheat crops in that section.

The Oregon State Board of Horticulture has many calls upon it for the recent biennial report, which is a very valuable one.

Stock growers of the Northwest are hoping for the establishing of a packing house of the Swift Company in the early future.

British Columbia does not permit the export of logs cut on provincial lands. They must be sawed by mills within the province.

Freewater, Oregon, captured the Falkenburg cup offered at the Washington State Fruit Growers' Association for best display of apples.

Produce Exchange of Portland, Oregon, is making a fight against farmers driving in and selling their own produce to buyers of that city.

One of the largest and most successful meetings in the history of the Oregon Pure Bred Live Stock Association was held recently in Portland.

The lieutenant-governor of British Columbia has created a great reserve in public lands by which all timber lands are held in control of the government.

One hundred large fruit growers at Cashmere, Washington, have organized a horticultural association allied with the Cheelan County Horticultural Association.

Alfalfa hay is selling in Tacoma, Washington, at $15 and $16 and wheat hay at $18 and $19 per ton. In the same market some Timothy is offered at $27 and $29.

Farmers' Union at Colfax, Washington, are making war on weed pests, and are asking for a rigid enforcement of the law, especially against Canadian thistle and "Jim Hill" mustard.

A large syndicate is purchasing a 160,000 acres of timber land in British Columbia. The land is situated on the north end of Vancouver and on a number of Queen Charlotte Islands.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

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From Carefully selected purebred stock of

White Minorcas **White Leghorns**
Buff Orpingtons **Aylesbury Ducks**

For full particulars and prices on eggs and incubator chicks apply to

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Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps. No fertilizer ingredients in these Beef Scraps.

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—Breeders of—
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White Rocks and
Indian Runner Ducks

Orpington and Rocks $2 per setting; $6 per 100.
Duck Eggs $1.50 per 12.
Write your wants. Correspondence carefully answered.

Box 298. **WYATT & WOLLITZ, Corona, Cal.**

Profit in the Poultry Ya

We solicit short articles of a practical nature from the fancier and ut breeder, giving their experiences with poultry. All inquiries pertaining to f management, disease and its prevention will be answered through these colur

PROPER FOOD FOR YOUNG PULLETS.

THE proper or best method of feeding our early pullets is a subject that has caused no little study. Most everyone has their own method of feeding. Some contend that a whole grain ration is best; others that a dry mash fed in feeders is the proper thing and still others that only wet mash should be fed if we want to get the best results.

Dry mash fed in hoppers is very popular just at present and those who use either method of feeding will be interested in an experiment made at the Cornell University Experiment Station, covering a period of 364 days.

The experiment was made with 80 single comb White Leghorn pullets that were five months old when they were selected and put into pens for the test. The pullets were placed in four pens as nearly evenly divided as was possible, so far as size and vigor was concerned, and their surroundings were practically alike.

Method of Feeding.

Two methods were used in feeding, which they term as forced and retarded. Pen number one, forced, was fed grain mixture morning and night in litter, and a wet mash at noon. Pen two, forced, was fed a grain mixture morning and night and a dry mash in hoppers open at all times.

Pen three, retarded, received grain morning, noon and night in litter, and beef scraps once a day in a trough. Pen two, retarded, was fed grain mixture and beef scrap in hoppers open at all times.

The pullets in all four pens had grit, oyster shell and water always before them; were also given mangel beets and green cut bone at intervals.

Accurate Records.

The birds were trap-nested the entire time and accurate records were kept as to number of eggs, weight of eggs, weight of hens, amount of grain consumed, effect of different food on molt and period of molt.

The average quantity of food consumed per hen in the retarded pens was about two pounds more than that eaten by the hens in the forced pens, at a cost of three cents more per hen. The hens having whole grain ate 38 per cent more grit than those having part ground grain and although laying less eggs consumed 27.9 per cent more shell.

From the beginning of the experiment in July until February, the cost per dozen eggs was decidedly less in the forced pens. After that time the cost was much less in both cases and the difference between the forced and retarded was small. For the whole year the average cost per dozen was 20 per cent less in the forced than in the retarded pens.

The dry-mash-grain-fed flock made the best profit, $1.45 per hen, and the wet-mash and grain-fed flock came next with $1.34 per hen. This gives an excess of profit of eleven cents per hen in favor of the dry-mash-grain-fed method of feeding.

Fertility.

Of the eggs which were incubated, 371 were from the forced pens and 383 were from the retarded pen eggs from each pen were pla several machines, where con were as nearly alike as possibl result was that the eggs fror forced pens gave 11.5 per cent chicks than from the retarded The report of the entire cont summed up by those conductin experiment as follows:

Summary.

The findings drawn from the of this experiment are as fo but they should in no case be a ed as final until verified by rep experiments with vastly more f

1. Forced pullets made a profit than retarded pullets.

2. Forced pullets ate less foo hen at less cost per hen than ret pullets.

3. Forced pullets produced eggs of a larger size, at less cos dozen than retarded pullets.

4. Forced pullets produced eggs during early winter than re ed pullets.

5. Forced pullets gave hatching results of eggs than re ed pullets.

6. Forced pullets made a gr percentage of gain in weight tha tarded pullets.

7. Forced pullets showed broodiness than retarded pullets.

8. Forced pullets had less m ity than retarded pullets.

9. Forced pullets showed vigor than retarded pullets.

10. Forced pullets showed the mature molt earlier than ret pullets.

11. Retarded pullets gave fertility of eggs than forced pul

12. Hopper-fed dry mash gave ter results in gain of weight pr tion of eggs, gain in weight of hatching power of eggs, days lo molting, mortality, health and per hen, than wet mash.

13. Wet-mash and grain-fed lets consumed slightly less foo less cost, and produced eggs at sl ly less cost per dozen than dry-r and grain-fed pullets.

14. Wet-mash and grain-fed lets produced slightly larger egg slightly better fertility, and sh less broodiness than dry-mash grain-fed pullets.

15. Dry-mash and grain-fed p laid eggs of good size at an e period than wet-mash and grai pullets.

16. Hopper-fed pullets ate than hand-fed pullets.

17. Pullets having whole grain more grit and shell than those ing a proportion of ground grain

18. Pullets fed on grain were n inclined to develop bad habits t those having a mash.

19. Earliest producers did not as many eggs in early winter.

20. Early layers gained as rapi in weight as those beginning late t lay.

21. Prolificacy made but slight ference in weight of hen and we of egg.

22. The most prolific pullets not always lay earliest.

23. Pullets did not, as a rule, while molting.

We have for a number of y been a believer in the dry mash

C. White Leghorns
The Kind
That Pays

my breeding birds I each year select
mber of my handsomest, earliest de-
ping pullets and trap nest them dur-
their entire first laying year. The
t season from these I select only
e having satisfactory laying records.
ny breeding pens are only hens of
en worth in their second and third
on, and no bird that has ever shown
race of disease. Each pen mated
en hens to one handsome cock. I be-
e there is not in California a hand-
er or better lot of birds and few as
d. Can furnish eggs for hatching
n these birds at $1.50 for 15, $7.50 per
or $60 per 1000. Let me book your
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C. White Leghorns
Barred P. Rocks

on on White Leghorns at the Poultry
eders' Association show, Jan. 6-12, 1908.
rsts, 2 seconds; 4 thirds; 1 fourth; 1 fifth.
o Association cup for highest scoring on
ite Leghorn cockerel. Eggs for hatch-
, $1, $1.50 per 13; $5 per 100. Prize win-
g pens, $2 per 13. The hens in our breed-
pen: are all selected two-year-old hens,
bred to lay and win.

anson & Johnson, San Gabriel, Cal.
San Gabriel Electric to Masonic
Home then 2 blocks South.

Chili Peppers

ied cull peppers for chickens, shipped
any address on receipt of price $1.50
r cwt.

C. E. Utt, Tustin, Cal.

Spargur's Trap-Nested
White Leghorns

ggs $1.50 per 15, $7.00 per 100. I. R.
uck Eggs, $1.00 per 13, $5.00 per 100.

H. G. Spargur, Soquel, Cal.

0-Acre Poultry Ranches
For $100

ose to Los Angeles. If you want quick returns
your money, call at our office for particulars.
3 Chamber of Commerce Bldg., Los Angeles

01 Sullivan's Buff Orpingtons 1908

r Commonwealth Strain leads them all! Show
cord never equalled on the Pacific Coast. Prices
w as the lowest, quality considered. Stock and
gs for sale. Hundreds to select from.

Mr. and Mrs. W. S. Sullivan
Agnew, Santa Clara Co., Cal.
ards Stone Throw from Depot.

Baldwin's White Leghorns

First prizes San Jose '06, and State Fair '07
Three 1sts and special, San Jose, '07.
hree 1sts, three 2nds and $50 Cup best display
Petaluma '07.
Send for free '08 Catalogue and price list.

Frank E. Baldwin
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HOMERS
Prolific Breeders
Winner of 1st pen at Breeders' Show
Satisfaction Guaranteed

C. E. Bunker
San Jacinto, Cal.

White Wyandottes Exclusively
ood, White, Typical Birds. Stock and Eggs For Sale.
W. A. SEYMOUR
70 No. Beaudry Ave. Los Angeles Cal.

hopper-method of feeding, and are to-day feeding our hens a mash in hoppers and giving a mixed grain ration at night only. We believe it is better to feed the grain at night than in the morning.

If we should accept the result of this experiment as final, we would see that the dry mash is the best method of feeding.

AROUND THE YARDS.

Soft shelled eggs are generally caused by hens being too fat.

* * *

Never market a dirty egg; one soiled egg will give the whole lot a bad appearance.

* * *

Milk is excellent for laying hens, as it contains constituents of the white of eggs.

* * *

Old hens lay larger eggs than pullets and their eggs produce stronger and more vigorous chicks.

* * *

In marketing your eggs, if you have a mixed lot, sort out the white-shelled ones from the brown-shelled ones.

* * *

Los Angeles consumes daily 900 cases or 27,000 dozen eggs. Here is an item for those who contemplate going into the poultry business. Figuring on a basis of 25 cents per dozen would amount to $6750. In figuring the amount of eggs consumed, only those that were sold were figured; when we add to this the ones that are used by those keeping fowls, the amount will be considerable larger.

We believe there is a good field in California for market poultry and eggs, as thousands of dollars worth of poultry and eggs are shipped into this State annually, and the day is a long way off when there will be an over production of either poultry or eggs.

SYMPTOMS OF ROUP AND TREATMENT.

It is not always possible to tell catarrhs from roup. Generally, we say that roup has a smell of its own. A few roupy birds confined in a fairly tight house give off an odor that is plainly evident in the early morning. Besides this, there may be watery eyes, running at nostrils, swelled head and discharge from mouth. The bird rapidly looses flesh, color of comb and lobes is less red, and thirst is somewhat prominent. Roup is hard to cure. How do we know this is so? By the large number of "cures" offered for this disease. There is hardlly any one of the "roup cures" that has not its host of friends.

I do not know that anything is better than arsenite of atinomy and kerosene. The dose of the arsenite is very small, one three-hundredths of a grain four times a day, being dose enough. One teaspoonful of kerosene oil to sixteen quarts of drinking water will help cure and prevent new cases. The kerosene oil works by destroying the germ life of the disease as it comes in contact with them. Every drink of water leaves a little oil in nostril and mouth and the oil also acts on any discharge that may dip into the water dish. I need not add that houses should be kept clean, well aired and dry. Ill birds should be kept well apart from the others and new cases quarantined as they appear.

Most important of all is the keeping out of breeding pens any bird that has ever been seriouslly ill with roup. You cannot afford to use a "cured" case of roup if you would maintain health in your flock.—Dr. Sanborn.

Feed the Chicks and Kill the Gophers

West Coast Chick Feed

A full, rightly balanced ration for the little ones, to be fed dry. All pure feed, no filler, no waste. The biggest seller because the best made. Keeps them growing and healthy. For sale by many dealers; if not by yours send direct to us.

Bille's Gopher Poison

is most attractive to gophers, squirrels, etc., but sure death. Endorsed by Agricultural Colleges and Experiment Stations. Has had the greatest success for years in the Middle West, and also here in California last season. Circular with many testimonials and Affidavit of 201 killed in one day. If your dealer hasn't it, send $2.50 for two bottles, (not less than two) express prepaid by us. Money refunded if not as represented—so printed on the bottle.

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There's No Worry
ABOUT HATCHING
WHEN YOU BUY A
Los Angeles
Incubator
THEY ARE GUARANTEED
OPAL INCUBATOR OIL
5 GAL. $1.50
10 GAL. 2.90
GET OUR FREE CATALOGUE
Henry Albers Co., 534 So. Main, Los Angeles

5,000 MEN OUT OF WORK

Can feed a few hens on the scraps from the table and have eggs for the family every day in the year—but

Little Chicks should be fed on Excelsior Chick Food

prepared from clean, sound grains, seeds, beef scraps and charcoal in proportions to make a well balanced ration and produce strong, healthy chicks and keep them continually growing. For sale by all dealers and grocers. Take no other.

Excelsior Cereal Milling Company
242 Central Ave., Los Angeles

White Wyandottes Exclusively
CREAM OF THE COAST
Our strain have won in strong competition on the Pacific Coast
Eggs $3. and $5. Per sitting of 15. 100 Eggs $15 and $20
Eggs from Exhibition stock now ready; "Madam White" and other prize winners Fertility Guaranteed. A trio two pullets and a cockerel, reasonable. Here is a good start for you.
Day old Chicks Incubator lots our specialty, $15 per 100.
Booking must be made in advance
Send for our new Catalogue
George W. Grace & Son Rural 21 Capitol Ave
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We Save You $5 to $20 on Each Machine

The "Queen" Incubators are the cheapest and best Incubators on the Pacific Coast and every machine guaranteed to do all we claim for them or your money refunded within 60 days.

Don't buy a machine at any price before you have seen the "Queen."

Call at 440 San Fernando Bldg., and examine them for yourself or write for Queen Book No. 6 and Poultry Profits.

ANNA P. WILLIAMS, Agt.
F 2778 Cor 4th & Main, Los Angeles, Cal.

Trap-Nested White Wyandottes

That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen contest open to all breeds. Mammoth Bronze Turkeys, winners of 6 blue ribons, all at Los Angeles County Poultry Ass'n Show, Dec. 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah.

Mission View Poultry Ranch Mrs. C. D. Hubbard San Fernando, Cal.

Use

Coulson's

Special Dry

Chick Food

and Insure Success

Two-Weeks-Old Chicks fed on
Coulson's Special Dry Chick Food

For Sale By

Coulson Poultry and Stock Food Company

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Send for our Free Book, "Poultry Feeding for Profit"

Germain Seed Co., Los Angeles

Distributing Agents for Southern California

CROLEY'S Meat Scraps Meat Scraps

No Hair **$3.00 per Sack** No Hoofs

Geo. H. Croley - Petaluma, Cal.

Croley's Green Bone, $2.50 per Sack

Baby Chicks and Hatching Eggs

Thousands of Chicks of all varieties hatching every week. Buy your Chicks and Eggs here and save money. We can sell you thoroughbred eggs of any variety for less than you can get them anywhere. All eggs guaranteed. Send or phone for price list.

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Also Pioneer Manufacturers of ***High Grade Fertilizers.***
Write for our free booklet, "Farmer's Friend." Valuable to all farmers and ranchers.

When writing advertisers, mention Cultivator.

WOMAN IN THE POULTRY YARD

What women have done, other women may do. Therefore, I have thought it might be of interest and practical helpfulness to give in this department a sketch of what has been done by certain women for the benefit of the feminine readers of S. P. J.

Very uncommon, indeed, is the success that has been attained by Mrs. B. C. Johnson of Maxwell, Iowa. One day last summer she invited her neighbors to come and see the 2000 chicks she would show them, newly hatched. It is said that some people came 200 miles to see the exhibition. She had a crowd, and all expectant. She told them she had made a miscount. Instead of 2000, she had 2330 to show them. It is safe to say very few women, or men either, for that matter, could make such a showing. The chicks hatched were mostly Brown Leghorns. The year before she hatched in a single day 1087, and by general consent Mrs. Johnson was given the name of "Poultry Queen of Iowa."

This woman's success gives weight to her ideas regarding the hatching business. She considers a temperature of 104 degrees very close to the danger line. She starts the head at 102 for the first week, keeping it at 103 the second and third week, never allowing it to go long at 104, and never above it. She claims that too high a temperature causes chicks to die in the shell. She also believes that chicks should be removed from the incubator as soon as they are dry. She contends they cannot bear the high temperature without injury. With due respect to Mrs. Johnson, I wish to suggest that this matter depends upon the incubator. Some machines have so cold a nursery that the wee babies are chilled in it; others may be too hot. Where the nursery temperature is about 90 degrees, they are better off left in the machine until time to put them into the brooder. By testing the heat in the bottom of the nursery a few days before hatching begins, it is an easy matter to decide this question.

Neither does Mrs. Johnson believe the brooder heat should be as high as is usually recommended. She considers 86 degrees high enough to start with. She always cools the eggs before turning, which will be a new idea to many. She introduces moisture the last of the hatch. This enables the little fellows to pip the shell more easily.

So much for one eminently successful woman. There are many of them, but just now we want to introduce you to Mrs. Emma J. Hertzog of Nebraska. She began in a small way, letting her business grow naturally, until she had mastered details, and fitted herself for later successes.

Seven years ago she purchased her first setting of Single Comb Buff Orpington eggs, paying $5 for fifteen. This was quite a venture, as it was her first purchase of pure bred stock. As a result she now has a flock of something over one hundred and fifty chickens of the finest quality, and which draw many poultry enthusiasts as visitors. She is such an enthusiast herself that it is contagious.

Mrs. Hertzog has been very successful in the show room. In 1907, at the big State Poultry show, she won the silver loving cup, worth $20, for the best display of fresh eggs. This

THE EGG YIELD

What are the hens doing for yo
this year—how's the egg yield?
you are not satisfied with the recor
up to date, put your business on
more profitable basis by giving dail
in the morning's feed a little of

DR. HESS

Poultry PAN-A-CE-

That will mean at once a positive an
paying increase. Poultry Pan-a-ce-
is a wonderful poultry tonic. It contains the bitter elements which ai
digestion, iron for the blood and
nitrates which expel from the system
of the hen all poisonous and hurtful
matter. It is the prescription of Dr.
Hess (M.D., D.V.S.) and is guaranteed to make hens lay eggs when
other means fail. It is a remedy for
roup and all poultry diseases. Fits
fowls for market in less time than can
be done without its use, and forces
early maturity in young chickens.
Endorsed by poultrymen in United
States and Canada. Costs but a
penny a day for 30 hens.

Sold on a written guarantee.

1½ lbs. 35c; 5 lbs. 85c; 12 lbs. $1.75
25 lb. pail $3.50

Send 2 cents for Dr. Hess 48-page Poultry Book, free.

DR. HESS & CLARK,
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Instant Louse Killer Kills Lice.

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Buy the
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Largest
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Plows for
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ARNOTT & COMPANY, Los Angeles,
Write for Catalog. 112-118 So. Los Angeles

Buff Leghorns

Eggs and stock for sale from the best plac
California. Nov. 1908 nearly all prizes at Hanf
Fresno and Petaluma, including 4 silver cu
Eggs $3.00 per setting from select matings, $
per 100 from choice stock.

Lindgren Bros
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Fancy Barred Rocks

Eggs From Prize Winners

First Pen $2.00 per Sitting
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East Side Poultry Yards

Barred Rock and Buff Orphington Eggs

Chicks hatched to order. We have taken the u
most care in procuring pure stock, also selec
by the "Hogan System". Visitors and corre
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E. J. Look *No. 16 Hancock St. E. San Jose, Cal.*

Bronze Turkeys

Breeding stock and eggs for sal
Gobblers $5.00 to $10.00 each. He
$3.00 to $5.00 each. Eggs 10 to 25
each.

C. E. Bunker
San Jacinto, Ca

Blue Andalusians, Buff Orpingtons,
Black Minorcas, S. Duckwing Leghorns, Games

I won at the late Oakland show 1 Silver Cup,
first, 1 second, and 1 third prize with 8 birds.

Eggs and Birds for sale

Black Minorca Eggs 5$ per 100

HOLLINGWORTH POULTRY YARDS
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S. C. Rhode Island Reds True Red Yards

Four pens, headed by Red Ranger, Red Flame, Red Scout, Red Cloud. Eastern winners. Eggs, standard utility, $1.50; select fancy, $2 for 13 utility stock, $2. A. B. WHITE, DOLGEVILLE, CAL.

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Stock and Eggs in season

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BUFF, WHITE, BLACK
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-PRIZE WINNING OR BREEDING STOCK
bird or Fifty—One setting or 1000
gs that hatch, at prices in propor-
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delivery.
want you to see our place and birds, and will
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Worth money, but free. 1 blk. north, 2 east
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All Sizes, Best Makes, Lowest Prices. Agents Wanted Write for Catalog
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SLOWS REDS
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gle Comb - Rose Comb
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WINSLOW'S REDS The bird for the Farmer and Fancier.
Write for 1908 Mating list.
Red Feather Poultry Yards
Dr. C. E. Winslow, Monrovia, Cal. Send stamp for Red Standard.

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Black Minorcas
Partridge Wyandottes
no Poultry Show, 1907, with 20 birds
display we took 14 prizes, four
s. Young stock for sale. Eggs in
on.
TIA POULTRY FARM, Fowler, Cal.
Smith & Darling, Proprietors.

ADE'S RHODE ISLAND REDS
The World's best layers. Get our folder. Drop a postal to
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e was hotly contested, but our lit-
woman won over all opponents.
birds, also, deserved all the rib-
s falling to their lot..
hat has been her financial suc-
? By judicious advertising she
built up a trade which takes all
eggs for hatching that she can
e at $2.50 per setting, and all the
lus fowls she can raise are eager-
aken by people who know their
e, paying a good price. She has
trouble in getting from $2 to $7
$8 each for good Orpington cock-
s, and for first-class pullets and
s from $2 to $5 each, while for
ding pens of one male and four
ales she gets $18 and upward ac-
ling to quality. The poultry
iness on the Hertzog farm nets
ral hundred dollars annually.
ch an experience as that of Mrs.
tzog is of peculiar value because
epresents sane, natural outgrowth
a business conducted upon busi-
s principles. It has nothing me-
ic or specutacular, but is simply
t any woman can accomplish,
owing the same sensible lines.—
cessful Poultry Journal.

DO CHICKENS PAY?

iven proper care, comfortable
rters, regular feeding of the right
d, nothing on the farm will pay so
l, considering money and labor in-
ted. Experience is more impor-
t than capital. Here are a few
nters: Give the flock plenty of
e, fresh water at all times. See
t they never lack grit in the shape
sharp gravel or one of the pre-
ed grits. Wood ashes and tobacco
t in the dust box will help drive
ay lice. If you have no trees in
yard, plant sunflowers, preferably
the Russian variety. The shade
welcome, and the seeds have food
ue besides. In raising broilers
main thing is to get the chicks
weigh one and a half to two
nds, as your market demands. I
l that there is nothing better for
tening old fowls than dry, hard
n.—Farmer Boy.

SETTING THE INCCUBATOR.

The time is coming, and all too soon, when we should begin thinking about setting our incubators. Those who have them can set them at the time they desire, providing they have been fortunate enough to get eggs enough, and if they have not it will pay them and pay them well, too, to buy eggs from some one who is getting eggs. It has been my experience that sitting eggs early, which were laid in winter, by hens that lay good, are sure to bring us winter layers, while eggs set from spring and summer layers bring us only a very small number of winter layers. It pays us to set winter-laid eggs and thus improve our stock by making them come nearer the 200-egg mark. I have made this a practice for the past five years and now I cannot find a hen that is not paying her way, and making a good profit besides, in my flocks. I usually set my incubator the first time the first week in February so it will hatch about the first of March.

The first thing one should see to is that you have good coal oil, as I find this has a great deal to do with keeping up even heat. I always use one company's oil as I find it gives better satisfaction than any of the others I have tried. An oil that smokes soon forms soot which makes it very difficult to keep up heat with sooty flues and the soot is liable to get afire and cause much trouble.

I start my machine early in the morning by filling the tank with hot water, then fill the lamp, cut the wick straight across, being careful not to leave any corners to smoke. (This is the only time the wick is trimmed; after this I scrape off the char with a match.) I place a piece of paper in the egg tray on which I place the thermometer. I keep the damper down until the heat registers 100 degrees, then I set the regulator so the damper just begins to raise, and then I fill the tray with eggs, all it will hold without crowding. It takes from ten to fifteen hours for the cold eggs to warm up to 100 degrees. I keep them at 102 degrees the first week, the second at from 102 degrees to 103 degrees, and the third from 103 degrees to 104 degrees. This temperature I find brings good, strong chicks. I begin turning the eggs on the third day and turn from two to three times a day; the oftener they are turned the better, if they are warm enough. I also sprinkle eggs once each week and twice the last week just about as much as I dampen clothes for ironing, as this has a tendency to make the shells brittle so the chicks can easily get out. I take the chicks from the incubator as soon as they get dry and spry. This gives the remaning ones a better chance.

Be very careful not to let your machine run dry or the lamp go out. This is not written for the benefit of experienced poultrymen and women, but for the benefit of amateurs.—Kansas Farmer.

Hesperia Land and Water Company has secured control of 35,000 acres of pasture land through which the Mojave River flows, which with 500,000 acres in surrounding government land will be used for pasture purposes. The firm has 6000 head of cattle contracted for.

The Success (no lamp) Incubator Company, White Salmon, Wash.

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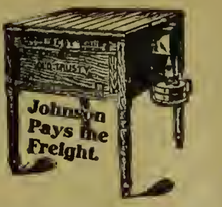
From October to May, Colds are the most frequent cause of Headache. LAXATIVE BROMO QUININE removes cause. E. W. Grove on box 25c


Johnson Pays the Freight.

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Incubators. Lowest priced Incubator sold on the Pacific Coast, using a solid copper heater and boiler. Double doors, double top and bottom, removable nursery drawer, perfect automatic regulator, hot water system of heating. How can any other Incubator be worth more? Send to-day for the 100-page catalogue, 250 pictures, etc. Iuvestigate before you buy anywhere.
E. E. McClanahan
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Barred Plymouth Rocks
Ocean Blue Strain
D. T. Wieland, Moneta, Originator
This strain has been bred in line by me for 19 years and never defeated in the show room. For 16 years our pullets have never lost first prize. At the big Chutes' show 1908, we won first and second pullet in a class of thirty, nothing else shown. Eggs $2.00, $3.00 and $5.00 per 15; incubator lots at $8.00 per 100. Eggs now testing fine. We have purchased the best son of the first Chicago pullet, 1907, to head one of our pens. A first prize cockerel heads our cockerel breeding pen. Other pens the same breeding and good ones.
Take short line car at 2nd and Spring Sts., via Gardena; get off at Illinois at Moneta. Right on Ranch.

Mammoth Bronze Turkeys One and Two Year Old Hens and Early Hatched, Well Matured Toms For Breeding
Well Bred, Carefully Selected Cockerels Good Style, Good Size, Pure White Birds S. C. White Leghorns Eggs for Hatching, Any Quantity Write your wants.
No trouble to answer inquirers. Satisfaction guaranteed.
Stuhr-Williamson Poultry Company
378 Bandini Ave. Home Phone 149 Riverside, Cal.

Black Langshans Well, we won again at Los Angeles. Two firsts, one second, one third on five birds shown, Best stock ever in show room in California. Eggs, $2.00 to $5.00 per 13, $10.00 to $20.00 per 100.
White Rocks Large and vigorous. Improve your stock with a setting or get a fine flock with an incubator lot. Eggs, $1.50 to $2.50 per 13, $8.00 to $12.00 per 100.
S. C. White Leghorns Order eggs now, we have plenty of them. Have had all winter, great big white ones. Eggs, $1.00 to $2.00 per 13, $6.00 to $10.00 per 100.
Phone East 915 Foster's Poultry Yards, 128 W. Avenue 41, Los Angeles

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A Balanced ration made of pure grains (cracked), Seeds, Beef Scrap Charcoal. No grit no waste or bowel trouble in feeding this feed, Will send freight prepaid, to any address for $3.50 per 100 lbs. Arizona points 50c extra.
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Barred and White Rocks White Wyandottes and Beautiful Little Golden Sebright Bantams
If you want birds of the highest quality, bred for standard and utility, write your wants. I guarantee satisfaction.
D. T. Heimlich - Jacksonville, Ill.

Starbuck's Barred Plymouth Rocks
We trap nest our hens. Why set from poor layers? Bird laying qualities are inherited the same as any other. This year we have discarded all old matings and have gone to the next generation. Cocks have 9 generations of 200 egg mothers. Hens all from 200 egg mothers and from cock with 6 generations of 200 egg mothers, and are layingfine. We have divided into pens according to the way they are showing up in six months laying. $2.50 for 13 eggs from first pen. $1.00 from 2nd. until they have time to make longer records. (Except from our one best, not for sale. We claim the world's Barred Rock, 6 months laying record for this one.) Do you wish to hear about our prize winning Buff Orpingtons and Silver Wyandottes? We have something to crow about. No Sunday sales or visitors. Wm. Starbuck & Son. Fullerton

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Bring Friends From the East
During March and April, Second Class tickets will be sold at very low rates from Eastern points to Southern California. For instance, from New York $55.00 and $58.00; from Chicago $38.00; St. Louis $35.50; Kansas City $30.00; Omaha $30.00; Minneapolis and St. Paul $36.75; Denver $30.00; Salt Lake City $30.00, and many other points at greatly reduced rates. If desired, tickets will be furnished at any point east or north of Salt Lake City, in the United States, Canada or Europe, if money for same be deposited with any agent of the Salt Lake Route. Los Angeles Offices are at 601 S. Spring St. and First St. Station.
For excellent service, beautiful scenery, through sleeping cars from Chicago, St. Louis, St. Paul, Kansas City, Omaha and Denver via Salt Lake City and the Short Line to Los Angeles your friends should travel
VIA SALT LAKE ROUTE

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We wish to call your attention to the fact that we have a large stock of Wood Sole Boots and Shoes of the very best quality. The Uppers are made of the very best quality Milwaukee Oil Grain. The Soles are well-shaped, and are an exact and comfortable fit, and our ***Patented Fastening*** makes this a ***Waterproof*** Shoe. We all know wood is a non-conductor, consequently it is much drier and a great deal ***warmer*** in Winter. They are lighter than Rubber or Leather Shoes and Boots. Shoes, $2.00; Boots, $3.25.

O.J.Weber Co. 555-557 S. Los Angeles St., Los Angeles, Cal.

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Anthrax
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VACCINES

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The Cutter Laboratory
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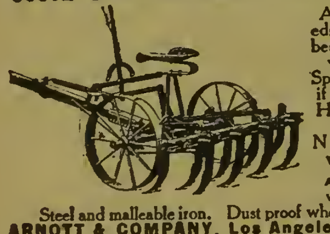

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Acknowledged the best, 5 feet wide. Spring teeth if wanted. Horizontal lift. No neck weight.
AGENTS WANTED
Steel and malleable iron. Dust proof wheels.
ARNOTT & COMPANY, Los Angeles, Cal.
Write for Catalog. 112-118 S.Los Angeles St.

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Holstein Bulls
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Pedigreed and Registered Stock
Write Us What You Want
Berkshire Hogs
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Registered Holstein Bulls
AT BARGAIN PRICES.

We must sell Fifty Head at once. Breeding second to none. Prices extremely low. You may never again have such an opportunity. Write today.
PIERCE LAND & STOCK CO.,
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Geo. C. Roeding, Fresno, Cal, breeder of
Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

Poland Chinas For Sale
18 head of Thoroughbred Poland Chinas of both sexes, some of them weigh 150 pounds. **W. R. McCaslin, R.F.D., Oak Park, Sac. Co., Cal. Roosevelt Ave**

Berkshires--Shorthorns
My Berkshires took every blue ribbon and Gold and Silver Medal in the female classes. Choice pigs at low prices. **G. A. Murphy, Perkins, Cal.**

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Live Stock and Dairy

THE COW'S HEALTH.

SELFISHLLY we went for years along our way leaving the dairy in the hands of the ignorant foreigner, while the man of more intelligence devoted himself to fruit and grain growing. The contempt that the dairyman was held in has only begun to pass away. I remember hearing my dairy spoken of with approval and the remark added in an apologetic tone, "You know she does not have to have a dairy, but does it because she likes cows." Of course I like cows, horses, dogs, cats and babies, in different degrees, to be sure, yet right here, please, dismiss the thought if you have it, that I worked up a herd of cows and ran a creamery for fun. I can have fun in less laborious ways than that. There is an interest in cow breeding along scientific lines, the studying of the transmission of acquired traits and the slow bringing of animal life to the type first conceived mentally as desirable, that possesses a fascination only equalled by "the joy of putting salt on the tail of an idea."

Health.

Comfort, warmth and good food with abundance of fresh water are necessary for the health of the domestic animals, fully as necessary as for the human family. The health of the cow producing milk and butter has much to do with the health of the consumer. This is a deeper question than the mere washing of cows' udders and keeping the manure out of the milk. By beginning at these visible things, we can hope to, in time, reach the inner conscience of the dairyman. Cows that are not thrifty looking should go out of a herd; they may not be tubercular, but they are not vigorous. I have never hesitated to make beef out of weak animals; no doubt, have sacrificed butter producers. I know of one cow that was allowed to grow up that was somewhat weakly that has made a good record. Her sons, however, are now heading herds; one of these succumbed the other day to tuberculin test. The dam could not pass on a constitution for she did not possess one. I sold this cow after she dropped her first calf, retaining the heifer from her. The heifer grew up, dropped one or two calves, and died early in life. Never reacted when tested but lacked vigor.

Now, there is another point here as well; I am sorry to say that the original cow was awarded first prize for dairy form at more than one fair. Should not vigor be considered by the judges rather than the fineness of hair or other minor points? Yet, the breeder of Holsteins well knows that his most vigorous cows will not receive as high a place in the show ring as the cow he finds of a less desirable type for his own dairy.

Exercise.

Show ring cows suffer by pampering and close stalls. The ordinary family cow suffers often from want of freedom; she is either kept in a small enclosure or else tied on a stake line. When this is necessary, why not take the cow for a short walk each morning before staking her out? This is for her health and vigor, not for conserving all the food consumed to make into butter fat with the least loss possible. Men vainly imagined that cows could be made into a mere machine for producing a given amount of fat from a given amount of feed. So many pounds of food—such a per cent of protein and carbohydrates—put into the cow's mouth—draw the milk and make the butter so many pounds less a certain per cent for maintenance. This is the way the Germans figured it out.

Jerseys.

The easy creaming of the Jersey milk makes them the queens of the dairy under hand skimming process of butter making. The large globule of fat rise quickly and is a desired thing in a family cow. One noted Jersey importer visited the ranch some years ago. He told me of the feeling the breeders had toward the American breeders of Jersey was that of sorrow. They deplored the loss of health and vigor that they feared would follow the practice of early breeding of the heifers. I am speaking of this, as I have been to the early breeding has been advanced as being greatly in favor of Jersey cattle. The breeding of calves by turning in a young male with them when they are five months old and having them all in calf before ten months old! This is wrong, doubly wrong in California, where the calves are skim milk fed and turned out to pick their living on scanty hill pasture. A skillful feeder might force these youngsters along and keep feeding them, and not do too much mischief. The beautiful Jersey heifers! It is a pity to marr their lives and stunt their growth. The star-eyed brown and gray beauties are too fawn-like to be made into wrecks early in life by these unprincipled men that trade in their lives.

Holsteins.

These cattle are often bred too early; we used to breed at fifteen months, but lately have been putting back the age to twenty to twenty-four months. It has paid us in this way to do so. The heifers come in, giving 50 to 60 pounds of milk instead of half the amount. It is cheap to pasture a heifer, only $5.00 a year; as soon as they are cows the rate doubles, not according to size, but according to age. The heifer is mature then to give a strong, valuable calf that will in turn make a good cow. The first calf from these heifers are as good as any others that are dropped. The largest calf ever born on the ranch from the dairy cows weighed 123 pounds at birth and was from a heifer that was bred at 23 months old.

The adolescence of the future cow needs to be guarded as a formative period. The unbred heifers will look slightly steer-like after fourteen months old, but do not worry over that; let them have the vigor, that this indicates, to build up into milk later on. The fact is, that type in the two sexes should not show until they become fully matured.

The same is true of the human being. The Greeks in sculpturing their goddesses used the boy of fifteen for the models until this fact was brougth out, the heavy waists of the goddesses was quoted at mature women as the national figure. Every slim waisted woman was regarded as having laced by the medical profession.

You can't harden a horse by making him endure hardship. The well bred, well kept horse is best.

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Price $1.50 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet R.
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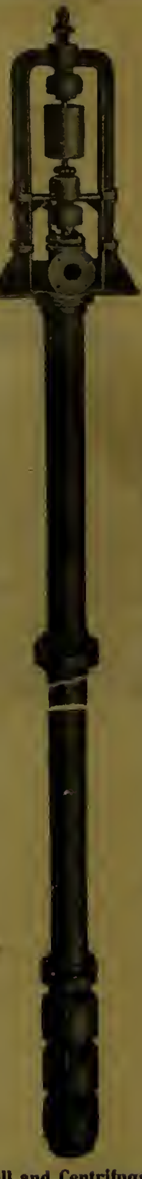

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PACIFIC ORCHARD TRUCK
3¼ x 1 Skein 28 & 3 Wheel 4 & 5 Tires
Agents Wanted Write us for Complete Catalo
ARNOTT & COMPANY, Los Angeles, Cal.

HOGS AND ALFALFA.

me farmers put not more than pigs on an acre of alfalfa and cut the crop for hay when nec- ry. This gives the hogs a run on h, tender forage the season ugh. These shoats when put on diet, whether with alfalfa or make rapid gains and will make er use of corn than hogs grown birth on corn ration. Every- y knows that hogs grown on al- have much greater resisting er to cholera than those grown corn.

There is nothing, aside from the of human kindness, so neces- to the comfort of any family as milk of a good cow. It is like poured upon the waters of life; s a perfect food for the baby; it n excellent beverage for the dren; it furnishes cream for the e, butter for the bread, and se for the lunch. It shortens pie crust and raises the johnny- ; even the cat and the dog cry it. With the farmer it goes still her. It raises the calf, it feeds pig, it pleases the colt, and it de- its the chickens. Yes, and if he only give her a fair chance, the will clothe the children, buy nforts for the wife, pay the taxes help lift the mortgage."

A DAIRY YARD SCENE.

reeding sows and young pigs ould be fed plentifully with wheat, n and other muscle-forming and e-growing foods.

n nearly all cases in summer the results can be had with breed- sows by turning them into a field ere there is plenty of pasturage.

t is much better to have the pigs ittle hungry and come to their with a sharp appetite than to e them lazy and indifferent about A pig that is always full will ely take the exercise it should.

o have a boar in best condition should have a mixed feed com- ed of three parts of bran, two of dlings and one of oil meal. If in clover pasture he should have les or clover hay.

n old sow that has shown herself ood mother should be preferred to that is younger. The practice of ng young is sure to end in degen- cy of stock sooner or later if fol- ed up.

o far as possible with pigs, the e should always be a thorough- d, and it is not a good plan to use ross-bred male even if of good lity, and especially if uniformity esired among the offspring.

ismanagement in feeding, breed- and caring for stock tends to dis- e constitutional vigor and the hog suffers more in this respect from poor treatment than perhaps any other class of stock from the fact that there is a greater tax on his system.

As a general rule, a good appetite is a good indication of health, and a hog that will eat heartily three times a day can generally be looked upon as in good health, and with good management can be made ready to market at the proper time. It is much easier to keep hogs in good health than to cure them of disease.

In the successful management of hogs there is no more important point than to keep them on full feed, to keep them eating to their full digestive capacity. Without this it is impossible to raise hogs so that they can be marketed at from seven to nine months of age, and unless this can be done there will not be the best nor a proper profit in the business.

SHEEP NOTES.

The ewes should be two years old before being bred.

Regular feeding makes a steady growth and good wool, as well as good lambs.

The best wool and the best mutton are obtained from the sheep that has been kept growing all its life.

If the best profit is realized, not only the wool, but the mutton and the lamb must contribute their part.

The weight of the fleece and the quality of the mutton has more to do with profit in sheep keeping than the tariff.

A fattening animal of any sort should never have more food placed before it than it will eat up with avidity.

Sheep restore to the soil a larger proportion of the elements than they take from it in grazing than do any other stock.

Scab, foot rot, liver trouble and catarrh are all diseases that are induced by lack of thrift. Lack of thrift is induced by lack of care and lack of feed.

Sheep husbandry is something like fruit growing. It is about the poorest kind of an occupation for a careless man.

Sheep are the only animals that do not exhaust the land upon which they feed, but permanently improve it.

The only way to keep a flock up to a high standard, to keep the standard raising higher all the time, is to cull and cull.

In growing the finer quality of wool, the grass, hay, grain or water will in a measure affect the quality.

Sheep, through the peculiar nutri-

West Coast Cresol Dip

Strongest and most effective Germ Destroyer, Insecticide and disinfectant. Made of Coal Tar Creosote Oil. Great caution must be exercised in using Carbolic Dips and those that contain Petroleum oils. Reports in 1905 from Wyoming show that many sheep died on account of dipping in petroleum. Sulphur-Lime dips impair the quality of wool on sheep, and sometimes blind them. Tobacco dips very often sicken sheep. And none of these dips can compare in effectiveness with Cresol Dips. These, while being most effective, are perfectly harmless. Wool is improved by their use, as it not only cleanses the wool but leaves no stain and gives it a soft texture.

But Cresol Dips differ very much. A Coal Tar Dip depends for its activity almost entirely upon the Cresylic Acid it contains. West Coast Dip is guaranteed to be made from Coal Tar Creosote Oil containing 25 per cent Cresylic Acid. Most dips sold in the United States are made from domestic creosote oils, which run about one-half the strength of imported oil. Permission was given by the U. S. Dept. of Agriculture to use our Dip for the treatment of sheep scab in the proportion of one part Dip to 67 parts water. This is the highest dilution we have ever heard of being permitted by the Department. When thus diluted it costs but a trifle.

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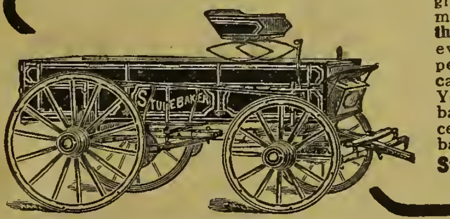
The Largest Vehicle Factory in the World.



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that satisfy both the cow and the man are found in

Mehring's Foot Power Cow Milker

which have done successful work for six years in New York and two years on this coast, and, in fact, are doing practically the same work as some "power" machines costing six or seven times as much.

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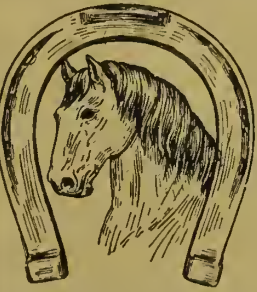

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for Horses and Cattle
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Put up by 1-lb. Package, 25 cents
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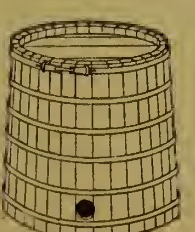
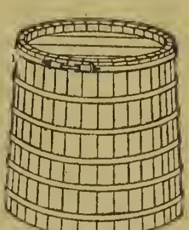


Wine Tank



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Reports are arriving in every mail from Maine to California and Canada to Florida, telling of how the New Improved De Laval Cream Separators are sweeping all would-be competition aside. Cow owners and separator users everywhere cannot say enough in praise of the new De Laval. Even competitors are admitting its vastly increased superiority and marvelling at its many conveniences, perfect skimming qualities, ease of running, great simplicity, durability and beauty of design. The new De Laval is ten years in advance of any other separator made today. Nothing like it has ever been produced before and to have done so now is only possible after three years of constant experimenting by the world's best engineers and mechanical experts backed up by our thirty years of experience in the manufacture and sale of nearly a million separators. Improvements have been made in every feature and several brand new styles and capacities introduced. There is a machine for every size dairy from the smallest to the largest and at a price that will fit every pocket, while you may buy for cash or on terms so liberal that the machine will actually pay for itself.

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OUR WINNINGS IN THE AMERICAN SHOW-RING IN 1907 have never been equaled in any one year by one person or firm. AT THE OHIO STATE FAIR in 1907 we won 15 first prizes, 9 seconds and 6 thirds. AT THE INDIANA STATE FAIR—17 firsts, 11 seconds and 7 thirds. AT THE ILLINOIS STATE FAIR—18 firsts, 12 seconds and 7 thirds. AT THE MISSOURI STATE FAIR—17 firsts, 11 seconds and 3 thirds. AT THE AMERICAN ROYAL LIVE STOCK SHOW at Kansas City, Mo.—20 firsts, 10 seconds and 6 thirds. AT THE GREAT INTERNATIONAL at Chicago, Ill., we won 30 firsts, including five championships, 13 seconds and 10 thirds. Our guarantee is best and terms liberal. Permanent Sacramento Location, 1309 J Street (in rear.)

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Alhambra Addition Water Co. put in the 20th Century Air Lift and secured 63 per cent more water with the same H. P. and 86 percent more water by using their addition power which was not available while using former method of pumping,

ALHAMBRA ADDITION WATER COMPANY.
Office of the Secretary,
Room 729 P. E. Building.
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tiousness of their manure and the facility with which it is distributed, are found to be the most economical in renewing the productiveness of the land.

A fairly well bred flock of ewes bred for a few years to none but first class rams will in a short time give as fine a flock as one could desire for all practical purposes.

Good wool as well as good mutton depends largely upon the quality of the food. Succulent food makes the best wool, the cleanest, brightest, softest and strongest.

As a rule, the wool of young sheep is stronger and has more elasticity than that of aged ones, which, for want of youth, has less strength and fibrous body.

If a cull ewe is admitted to the flock the chances are that she will rear a cull, and one worse than herself (for that is the tendency of nature.) Then there will be two culls instead of one.

It is claimed that by using rams in the prime of life with old ewes a larger proportion of ram lambs will be produced, and by mating ewes in the prime and vigor of life with young ram lambs before they are mature a larger proportion of ewe lambs will be secured.

In order to keep sheep for wool, it is essential to have young, uniformly well-wooled sheep, and they must be constantly kept in a healthful, thrifty condition to yield sound fleeces.

FEED THE HORSE REGULARLY.

The horse is next to a human in spirit, physical structure and desire for regularity. To get the best results from him he must be treated much as a human being should be. He should have regular care, be curried thoroughly every morning, for at least half an hour; for currying is his bath. It cleans the skin, opens the pores of the body and aids digestion.

Whatever hour he is fed, morning, noon and night, should be strictly adhered to. About the same quantity at each meal should be given. If the horse is a working animal, he will require more hay and grain than a driving horse that only occasionally works. His ration should be changed, too, in order to keep his appetite keen. Do not feed barley hay every meal through the year, but interchange with oat hay and occasionally, say once or twice a week, give a little alfalfa, not a full feed of course, but a small bunch with the oat hay or barley. Alfalfa has much the same effect on a horse that spinach or greens have on a person, it is cooling, relieves the kidneys, throwing off certain salts and chemicals, and brightens the hair, this of itself shows its healthy action. Always observe the same rule in watering. Water half an hour after or before meals, but preservo some rule about it.

Probably more mistakes are made in graining than in anything else. We generally feed too much grain to driving horses. Grain is necessary, of course, but not in as great quantities as generally given. Enough hay and grain should be fed to keep a horse in good flesh and spirits, but excessive rations of barley or corn will burden the stomach, produce indigestion and breaking out of the skin. Vary the grain diet, feed barley a week then oats, then ground corn if the horse is a field animal, and always g
bran mash once or twic
If eggs are cheap break up a r
in the mash, it is excellent f
stomach. A teaspoonful of co
powders is a fine tonic if give
or twice a week.

But the most essential thing
feeding of a horse is regularity
and put yourself in his conditi
treat him as you treat yours
this way you will have a well
a spirited, willing one, which
be a pleasure to handle anywh

CAUSES OF INDIGESTION CALVES.

Indigestion may occur from
causes, as costiveness, a too
supply of milk; too rich mil
furnishing of the milk of a co
after calving to a very young
allowing the calf to suck th
milk of a cow that has been
driven by road, shipped by r
otherwise violently excited; al
the calf too long time between
so that, impelled by hunger, it
ly overloads and clogs the st
feeding from a pail milk th
been held over in unwashed
scalded) buckets, so that it i
mented and spoiled; feeding th
of cows kept on unwholesome
keeping calves in cold, damp,
filthy or bad smelling pens
licking of hair from themse
others and its formation into
the stomach will cause indi
in the calf.—By Dr. David R
Wisconsin State Veterinarian.

GOOD TREATMENT PAY

Kindness to a horse isn't
sentiment; it is sound business
horse that is well cared for w
more and better work than the
that is neglected, ill fed or a
The most practical kindness to a
next to good and proper feed
good horse blanket for the
months. Exposure to cold and
changes in the weather makes
liable to ailments such as col
fluenza and pneumonia. Stiff
and muscles, too, are often bro
by exposure or by leaving a
without a blanket. A good hors
ket, properly used, will preven
cases of this kind and often sav
than it cost in medicine and
ing. Californians do not need
ize this as much as the blizzar
try farmer, but there are time
a blanket should be used.

A young animal requires
salts and fuel food, in excess
repair and energy needs, says
er in the Victorian Journal o
culture. The milk of each
suits the needs of the young
species. Thus comparing cow
and human milk, we find in
a larger amount of lime salts
the quick bone-growth of th
whilst in human milk we
larger amount of lipoid to s
quick brain-growth of the hun
fant. Protein in excess of th
amount is needed for the bul
muscle and gland; fuel food
formation of fat; lime and
phorus for bone; lipoid for ner

Proteins and carbohydrates
transformed and laid on as fa
fattening animal. In a pregna
mal the growth of the young
has to be considered. An
recovering from fever or sta
requires fuel food and protein
cess.

Veterinary Instruments, Black Leg and Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

For Mehring Foot-Power Milkir
chines see O. J. Weber Co., 555
Los Angeles St., Los Angeles, Cal

·rıgation and Forestry

THE UNDERFLOW.

A GREAT deal has been said about the "underflow," and the term is so subject to miscon- ion that I dislike to use it. It is ɟ to convey the idea of a great progressive movement of water, ıaps from the mountains, extend- across a great extent of country. would suppose that there is an ·nsive undeground stream flowing he pace of a river. These con- ions are all wrong. There may a movement of water, but it is no erent from the underground ement occuring everywhere, and a greater extent in the East, for e in the more humid climate e is more water in excess of ooration to contribute to the ınd water. If the great slowness the movement of this under- ınd water is realized, then the n is not so objectionable. Water flow through all soils, but slow- ıs the soil is fine. In a moderate the speed may be but a few

ıes per day; in sand it is not apt exceed 10 feet a day, or consid- ɔly less than a mile a year. The d of the Arkansas and the Platte eys rarely furnishes a velocity h greater than this. If the surface he underground water is traced, it be found to be of much the same tour as the surface—low where ground descends, and the higher he hills. This is because the ınd water is nearly all of local in. The ground water slopes as surface does. Even in the sandy ams which seem to lose their it is found that the level of the und water is higher than the er of the stream, unless at floods. the case of hundreds of miles of els run across and in the vicinity the Arkansas river, in connection h the defense of the Kansas-Colo- suit, this was invariably found be the case, and so in other eams. There is an underflow in sense that there may be a flow lerground, and that it goes down . But that there is a general un- ground movement over large as and from great distances is a take. The people in Eastern Col- do and in Kansas often delude mselves with the notion that their od water comes from the moun- ns. Usually the source is near by.

Vahiawa, Hawaiian Islands, will ɔduce the enormous crop of 13,000 ıs of pineapples this season. This l comprise 1500 carloads. One of principal producers in that sec- n is Mr. W. B. Thomas, formerly of the owners of the Cultivator.

Farmers' Institute of Hawaii was ently held in Honolulu.

RIVER IMPROVEMENT.

President Rufus P. Jennings, of the River Improvement and Drainage Association of California, has called a meeting of the association for November 11, next, at California Building, Union Square, San Francisco, for the purpose of having those interested in river improvement hold conference with the California Congressional Delegation just prior to its departure for Washington. At this meeting many matters will come up for discussion, and it is expected that there will be a large gathering. Since the Superior Court of Sacramento county declared the Sacramento Drainage Act constitutional, the work of river improvement has been pushed, and it is expected that much benefit will come of this meeting.

One of the most important pieces of work that is contemplated by the Sacramento Drainage Commission is what is known as Horseshoe Bend Cut-off, between Three-mile slough and Toland's landing. The question of feasibility in this improvement is wholly one of cost. Among the advantages that would result may be mentioned: The length of this reach, which is 23,000 feet, would be shortened by 6640 feet, and the flood plane at the head of the cut would be permanently lowered by one foot. The cut-off would materially facilitate the passage of the floods through this part of the river. The lowering of the flood plane would add considerably to the security of the levees in the Cache slough and Grand Island regions and below. According to the estimates of the commission 9,700,000 cubic yards would have to be removed, and to the cost of this work would have to be added that of about 500 acres for right of way. The net cost of making the cut would be about $1,000,000.

This will be the first step in a large, systematic and comprehensive plan of river improvement, and at the meeting in November other plans will be disgcussed by United States engineers and others who are interested in the matter. Co-operation on the part of all interested parties and organizations is essential to success, and as the River and Improvement and Drainage Association has matters well in hand it would be well for all organizations to assist it in its efforts to bring about a betterment of conditions. The association is securing data relating to tonnage and possibilities of future tonnage, through Prentiss Maslin, whose services it has secured, and this data will be available for presentation to the National Rivers and Harbors Congress at its meeting in Washington next December. It will also be furnished to Colonel Biddle, in charge of the United States Engineer Corps in California, who says that his work is much hampered through lack of such data. Through him it will go to the War Department, and through the Secretary of War to the United States congress, showing the necessity for more consideration to California from that body.

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COULD BE FOR EITHER.

The organist was having trouble with the sexton. The old fellow refused to pump the organ except when he was ready, and then he stopped whenever he thought there had been enough music. Sunday morning came around again, and this time the organist handed him a note imploring him to stick to his post through the services. Old John, without looking at the note and without turning to observe the frantic gesticulations of the organist, handed it to the minister. He read:

"Blow away this morning until I signal to stop."

It is rumored that Harriman is endeavoring to dispose of the California Development Co.'s control of the irrigation interests of Imperial Valley to the Government Reclamation Service.

Texas is a large timber State. Its forests are one of its greatest resources. Much lumber has been wasted by clearing simply for cultivation. The Texas people are now beginning to realize the importance of conserving this wealth. Some parts of the State are treeless, and tree planting has to be done. In the Panhandle region in the spring of 1906, over 500,000 trees were set out.

The case of L. M. Holt for the objecting stockholders of the California Development Company has been won against the Southern Pacific. This has been a great surprise to the directors of the California Development Company, and the Imperial valley people are wondering where they are at.

The trouble between the California Development Company and the owners of the Salt Plant at the bottom of the Salton Sea hope to compromise their contention by the Development Company purchasing the entire Salton Sea.

Horticultural Commissioner Pease has closed a successful season of fighting the pests of his county. The work has been done for the county, but usually paid for by the property owners, but where not paid liens have been filed to secure payment.

Riverside has experimented some in the manufacture of vinegar from cull oranges, which has been of sufficient success that more extensive experiments will be made to see if it can be made commercially profitable.

Whittier has hoped for a large cannery to be constructed there in the near future.

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Perfect Acetylene Generator

Why? There is no part of it that you can't see through the new port just opposite the feed, so you know just as much about it as we do.

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WATCH YOURSELF GO BY.

Just stand aside and watch yourself go by;
Think of yourself as "he," instead of "I."
Note, closely as in other men you note,
The bag-kneed trousers and the seedy coat.
Pick flaws; find fault; forget the man is you,
And strive to make your estimate ring true.
Confront yourself and look you in the eye—
Just stand aside and watch yourself go by.

Interpret all your motives just as though
You looked on one whose aims you did not know,
Let undisguised contempt surge through you when
You see you shirk, O commonest of men!
Despise your cowardice; condemn whate'er
You note of falseness in you anywhere.
Defend not one defect that shames your eye—
Just stand aside and watch yourself go by.

And then, with eyes unveiled to what you loathe—
To sins that with sweet charity you'd clothe—
Back to your self-walled tenement you'll go
With tolerance for all who dwell below.
The faults of others then will dwarf and shrink,
Love's chain grow stronger by one mighty link—
When you, with "he," as substitute for "I,"
Have stood aside and watched yourself go by.

—Strickland W. Gillilan, in Success Magazine.

THE PIAZZA GIRL.

"WHERE have been six girls in the office this morning," the dean remarked, glancing keenly at the gray-eyed girl before him, "who have said that they were willing to do anything to earn a little money."

The gray-eyed girl did not flinch. "But I am ready to do anything." she answered with a smile that emphasized the significant word.

The dean turned to his desk and rummaged in one of the pigeonholes.

"There are several ladies on the campus who are in need of some one to sweep their walks every day and wash the piazzas once or twice a week. Are you willing to do that? Of course, it will not bring you much, but it is all I have to offer at present."

"I shall be glad to do it," the girl replied. "May I have their addresses? Thank you very much."

The dean, leaning back in his chair watched his visitor as she crossed the campus. Six other girls had refused the work that morning. "But it remains to be seen whether she does it, after all," he said to himself.

She did do it; every morning for nine days he passed her on his before-breakfast constitutional. She always spoke brightly, with no apparent consciousness of her broom or mop.

"Means what she says, gives honest work, no false pride," the dean thought with satisfaction. Then suddenly the piazzas had a relapse; when two weeks later he met her, he asked about it.

"Oh," she explaned, "I'm going typewriting for Professor Summer. He asked me if I could do it as well as I could sweep walks, and I told him I could. It is facinating w copying the notes of his e ments."

"I've no doubt," the dean dec "that you intend to perform e ments of your own some day."

"I'm going to try," she laughe

When he reached that point favorite story, the old profess ways stopped.

"And did she?" somebody wa to ask.

"No," he fumed, "she went married a young upstart of an structor. She swept his piazza while, till he made a reputation, she copied his notes, and I've no did half his work—he always so."

"It seems a pity," the sympat listener, lured on so far, would ably begin, only to be vehement terrupted.

"Pity? Where'e the pity? W a pity? She helped a man do work in the world, and brough three sons, any one of whom w have washed piazza floors cheer to get an education. One is bu bridges out West, one is helping brains in the East, the third is in college. I'd like to know ho woman could put her education better use."

Then he would smile and look across the campus, with its gr girls.

"I used to doubt the wisdo higher education for girls. The who washed piazzas converted he would finish.—The Youth's C panion.

RECIPES.

Lemon Pie.

One lemon; 1 cup sugar; 3 e cup sweet milk; 1 tablespoon starch; 1 teaspoon butter. Crea butter, sugar and starch. Ad milk and beaten yolks. Gra yellow off the outside of the and use as flavoring. Sque the juice and add it to the m Beat whites of eggs to a stiff Add these the last thing and well. This makes enough for pies. Bake with bottom crust

Orange Cake.

Two cups of sugar, six eggs, (whites of two for frosting,) two flour, two teaspoons baking pow one-half cup of water, one grated ange. If this makes the batter thin, use less water or more flo

To make the frosting add to beaten whites of the eggs one gr orange and stir in enough powde sugar to make thick enough spread nicely.

A good and more economical ange cake can be made by usin plain cake receipe and using the ange juice and pulp for the wet instead of milk.

Orange Marmalade.

Slice very thin twelve oranges five lemons, using the entire fr but removing all seeds carefully. every pound of fruit add one quart water and soak for twenty fo hours. Boil till tender, then add o and a half pounds of cane sugar each pound of fruit. Boil until t liquid makes a jelly—about for minutes. Some use pound for pou of sugar and fruit.

A tablespoon of lemon juice in ha a glass of water, used with a so tooth brush, will clean the teeth an harden the gums.

AND FOR BREAKFAST BACON.

correspondent of Farm Progress the following explanation of ;reat popularity of breakfast ba-

periments are in progress to find why it is that the American peo- ıave developed such an insatiable tite for breakfast bacon. The ınd has becn steadily on the in- se for some years, but in the year all previous records were en. The people simply will have daily bacon, no matter whether price be high or low or the ther hot or cold. Even in the of midsummer the demand dily continues. There must be a on for this extraordinary crav- of the public palate, hence the ef- now being made to ascertain cause.

would seem to the writer that is not a difficult understanding. act, one very good reason can be n off-hand. Breakfast bacon is only delectable—thanks partly to t mysterious process which it un- goes in the packinghouses—but is of the most nutritious meats that be obtained.

Vhen sliced thin and broiled, it kes a crisp, dainty dish that looks more enticing than a thick loin ak or huge roast. But this is not main reason, which can be given a few words: Breakfast bacon is of the most easily digested meats the market. Experiments have ıe to show that even in the case of alids it can be eaten with im- ılty. Physicians in hospitals fre- ntly allow breakfast bacon to ty- ıld fever patients who have lain months perhaps on a diet of milk ıted with water. The writer can tify to this from personal experi- e.

Recent experiments by Professor yder at the Minnesota station dem- strated that bacon not only con- ns a very high per cent of protein, that even the fat cooked out of it en sliced and broiled was, when xed with other food, also highly tritious and digestible.

t goes without saying that the sent demand is a good thing for farmer who knows how to pro- ce a good bacon hog. It is the n bacon that is at present most eferred, too much fat being a dis- vantage. It is obvious, therefore, ıt every effort should be made to oduce firm, solid flesh, which is en found in corn-fed hogs.

A BUNCH OF FAT ONES.

LAUNDRY WORK.

The reason wash day is so dreaded by the housewife and, in many instances, by all the members of the household, is because the work is not rightly managed and proper preparations made for the work of this day.

The careful housekeeper has found that her work on wash day is made much easier if the clothes to be washed can be soaked over night, as this loosens the dirt and makes them much easier to wash. A small amount of borax dissolved in the water in which the clothes are soaked is a great help in softening and removing the dirt and in whitening the clothes. Borax costs more than salsoda, but it does not injure the fabric as do the stronger alkalis, so in the end it is the cheaper.

The thoughtful woman has also found out that it is far more economical to mend clothes before they are washed, for often the rents are made worse in washing and often garments are made useless by neglect. All stains that will "set" in washing should be removed before the clothes are put to soak. The stain should be examined and removed by the process most effective for the kind.

It is best to make all possible preparations, such as cutting the soap into pieces ready to make the soap solution for the boiler, before wash day arrives. Preparations for the meals of wash day should also be made in advance.

Washing Flannels.

Great care needs to be taken in washing woolens, for unless they are washed properly, they will shrink and become stiff and harsh. It is better to have the temperature of all the water used about the same. Never rub soap onto woolen garments. Make a soap solution and put it into the water in which the garments are to be washed. Always shake and brush the garments well before wetting them. Have the suds and two rinsing waters warm and add a tablespoon of borax to each one.

Work the suds through the material by lifting, squeezing and kneading. Never rub or twist woolens. After rinsing through two waters, run through the wringer and hang out to dry, and do not allow them to freeze. Take from the line before quite dry and press with moderately hot iron.—Lotta I. Crawford, Assistant, Department of Domestic Science, State Agricultural College, Fort Collins, Colorado.

HOMELY HINTS.

Neuralgia and headache may be relieved by rubbing the affected parts with lemon juice.

You can remove a wart or corn by puttting a piece of lemon on it a few times. Bind it on.

Lemon juice prevents dandruff. Mix one part of juice and three parts of water and rub into the scalp. Loss of hair can be successfully treated in the same way.

The lemon juice has an affinity for grease, and your lemon peels from which most of the juice has been squeezed for other purposes will take the grease off pots, pans, dishes and sink, quicker and better than hot water and soap. Rub your hands with them before and after and they will be saved from that disfigurement that comes from washing dishes.

To clean brass or other metal, cut a lemon and sprinkle salt on the cut surface, rub well with this.

When stewing dried fruit, as apples, apricots or peaches, add a few slices of lemon and the flavor will be greatly improved.

When putting up cherries for future use add slices of lemon. This applies to many other fruits and is a valuable hint.

If you want a palatable apple sauce from apples that are tough or insipid, add the juice of one lemon to a pound.

Lemon juice softens the water and renders washing less difficult. It also helps to remove dirt and grease; only be careful not to use it on colored clothes.

Clothes that have been allowed to stand over night in water to which the juice has been added will clean with very little rubbing.

Lemon juice will remove ink, rust or fruit stains. Do it this way: Moisten the stained goods in cold water, lay out in a hot sun, squeeze a few drops of juice on the stain, let it dry, then repeat the juice and drying until the stain is gone.

For iron rust and ink stains put a pinch of salt on the moistened stain and then apply the juice. Repeat. Only for uncolored goods.

Better than soap—Nothing will clean oiled, grimy hands, nails or face so quickly and completely as a piece of lemon. Rub it over them and rinse off with water. It will also remove ink or fruit stains from the skin.

The juice of one lemon in a basin of water makes a cooling, cleansing lotion for the face and hands, removes the oily, greasy appearance so common in hot weather, and gives a feeling of freshness after golf, tennis, bicycling and other active exertions.

Freckles, sunburn, eczema and blackheads are removed and the skin left soft, velvety and full of life, by using one part juice with four of water—never pure.

ORIGIN OF A HABIT.

Adam was securing a better grasp on the language.

"This," he explained to our first mother, as he gave his arm a comprehensive sweep, "is the book of Nature."

Eve looked around at the trees and tender grass.

"I wonder where the last chapter is?" she murmured. "I'd like to see how the story comes out."—Cleveland Plain Dealer.

Chosen words make the rough places smooth.

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The Produce Markets

Los Angeles Markets

Butter.

LOS ANGELES, Feb. 26., 1908.—Butter is lower by 7½ cents than last week. At this moment receipts are very light, but the quantity received during the past few days has been heavy, also San Francisco having shaded the prices both tend to lower quotations. However, present quotations are greater by 5 cents than last year this date.

Creamery ex per roll	.60
Firsts	.52½
Dairy	.45
Cooking	.42@47
Eastern	.50
"Butterine"	.15@20

Cheese.

Cal Young America per lb	.20½
Hand	.20½
California Anchor	.18
Northern fresh	.16½@18
Eastern singles	.19
Imported Swiss	.32
Tulare flats	.18½
Domestic Swiss	.20
Oregon	.18

Eggs and Poultry.

The egg market is very firm in tone and receipts at present are light. Quotations are slightly lower than last week.

Eggs local candled	.23@23½
Eggs case count	.21½
Eastern storage	.20
Hens per lb	.11@12
Young roosters per lb	.15
Fryers	.18@20
Broilers per lb	.21@22
Roasters	.15
Old roosters	.8
Turkeys	.15
Geese	.13
Ducks	.14
Squabs	1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds	.5¾
Prime steers	.4½
Heifers	.4
Calves per lb	.4½@5
Sheep ewes per head	.4.75
Lambs per head	.3.75@4.25
Wethers	.5.50

Potatoes.

Highlands	1.00@1.15
Early Rose	1.75@1.80
Salinas	1.25@1.50
Sweet potatoes per sack	3.00@3.50
Sweets Northern	3.00@3.25
Oregons	1.50
Idaho	1.25
White Rose	1.65
Watsonvilles	1.15@1.25

Onions.

Australian Browns	3.00@3.50
Bermudas per crate	2.00@2.50
Oregons	3.00
Minnesota	2.75@3.00
Garlic	.10
Ohio	3.00@3.25

Vegetables.

Artichoke per doz	.25@@90
do Jerusalem box	.75
Asparagus per lb	.70
Beets per doz	.40
Bell peppers per lb	.15@18
Beans limas per lb	.10@12
Beans green	.12½15
Beans Yellow	.5@8
Brussels sprouts per lb	.9
Cabbage sack	.15@25
Celery per doz	.35@50
Chili peppers per lb	.6@8
Chives per doz	1.25
Cucumbers per doz	.70@2.50
Cauliflower	.40@50
Carrots per doz	.30
Egg plant	.8@10
Green onions doz bunches	.20@30
Hubbard squash per lb	.1@1½
Lettuce per crate	1.00
Mushrooms per basket	1.75
Pie Pumpkins	.1½
Peas sugar per lb	.6@8
Parsley	.30
Parsnips	.35@40
Rhubarb per box	1.00@1.25
Radishes per doz	.15@20
Salsify	.40
Spinach per doz	.10@25
Squash box	1.00
Turnips doz bunches	.30
Tomatoes per box	1.25@2.00

Citrus Fruits.

Navels fy	1.60@1.75
Navels ch	1.25@1.50
Tangerines	1.50
Culls	.40
Grapefruit seedless	2.50@3.00
Grapefruit seedlings	1.75@2.00
Lemons fancy	1.25@1.50
Lemons choice	1.00@1.25

Fresh Fruits.

Bellefleurs	2.00@2.25
Baldwins	1.50@1.75
Pippins 4-tier	1.50@1.75
W W Pearmains	2.00@2.25
Colorado Jonathans	3.00
Cal Ben Davis	1.75@2.00
Guavas	.6@8
Loquats per lb	.6
Winter Nellis per lb	.7
Persimmons	.5
Quinces	1.25
Raspberries	.25
Strawberries	.4@8
Extra fancy	.15

Dried Fruits.

Apricots	.18@22
Evap apples fy per lb	.11@12
Figs loose	.7
Peaches	.11½@12
Pears	.16
Nectarines	.16
Prunes	.3½@5½

Beans Dried.

Limas per ctl	5.25
Pink No 1	3.65
Lady Washington	3.85@3.95
Small White	3.75@3.85
Black Eyes	4.50@5.00
Garvanzas	5.25@5.75
Lentils	.12@12½

Nuts.

Almonds per lb	.17½
Pecans polished	.16@17
Peanuts Virgina	.8½
Peanuts California	.8½
Walnuts No 1 SS	.16
Walnuts No 1 H S	.14@15

Honey.

Extracted Water White	.7@7¼
Comb W W	.11@15

Hay.

Barley No 1	14.00@18.00
Barley No 2	11.00@14.00
Alfalfa northern per ton	15.00
Alfalfa new local	15.00@17.00
Plain Oat No 1 new	17.00
Wheat No 1	17.00
Wheat No 2	14.00

Grain.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl	1.85
Wheat in 100-lb. sacks	1.90
Barley	1.50
Corn Eastern sacked	1.80
White oats	1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn	1.85
Shorts	.60@1.65
Bran	1.50
Oil cake meal	2.50
Feed meal	1.90
Rolled barley	1.65

San Francisco Markets

Butter.

SAN FRANCISCO, Feb. 25, 1908.—Heavy recipts of butter have broken the market again and this week shows further decline. A fairly firm tone prevails at the reduced quotations.

California extras per lb	.27½
California firsts	.27
California seconds	.23
Eastern extras	.24½
Storage Cal ex	.25

Cheese.

California young American fy	.12½
California flats fy	.11½
Eastern fy	.17½
Oregon fancy	.14½

Eggs and Poultry.

Eggs are unsteady with liberal offerings. A decline of 2½ cents has occurred within the week.

Fresh ranch eggs	.19
Eggs firsts per doz	.18½
Eggs second per doz	.18
Hens per doz	4.50@6.00
Hens extra	6.00@7.00
Young roosters	6.00@6.50
Old roosters	4.00@4.50
Fryers per doz	5.00@6.00
Broilers per doz	4.00@5.00
Geese per pair	2.00@2.50
Ducks young	4.00@5.00
Turkeys per lb	.15@17
Pigeons	1.00@1.25

Live Stock.

Steers No 1	.8½@9
Do second quality	.7½@8
No. 1 cows and heifers	.6¼@7
Hogs 80 to 200 lbs	.5¾@6
Hogs 200 to 300 lbs	.5½
Calves per lb	.4@5½
Lambs	.6½@7
Wethers No 1	.5½@6
Ewes No 1	.5@5½

Potatoes.

River Whites	.60@85
Oregon Burbanks	.65@90
Lompocs	1.00@1.25
Early Rose	1.10@1.30
River Reds	1.35@1.40
Salinas Burbanks	.75@1.00
Sweets per crate	2.75@2.85

Vegetables.

Artichokes Jerusalem per box	.75
Asparagus per lb	.35
Celery per crate	.75@1.00
Cucumbers per doz	.75@1.25
Chili peppers per lb	.2@5
Bell peppers per lb	.8@15
Beans Limas	.12@15
Egg plant per lb	.10@12½
Green peas per lb	.3@5
Squash per box	.50@1.25
Marrowfat squash per sack	.60@75
Mushrooms	.75@1.00
Hubbard squash per sack	.60@80
Rhubarb per box	1.25@1.75
Tomatoes local	1.25@2.00
String beans	.12½
Garlic	.5@7

Onions.

Yellow Danvers	3.00
Reds	2.50@2.65

Citrus Fruits.

Navels fy	2.50
Navels ch	1.25@2.25
Grapefruit seedless	2.50@3.00
Lemons	1.50@2.50
Limes	3.00@4.00

Fresh Fruits.

Newtons	1.65@2.00
Spitzenberg	1.75@2.00
Pears winter Nellis	2.00@2.50
Pomegranates per box	1.00@2.50
Quinces per box	1.00@1.25
Strawberries per ½ crate	1,25@1.50
Aligator pears	1.50

Dried Fruits.

Apples (evap.)	.6½@8
Apricots per lb new	.15@19
Figs white	.3½@5
Nectarines	.10@13
Plums pitted	.12@15
Peaches	.9@11
Pears	.8½@@10½
Prunes 4 size bag basis	.3¼@4

Beans Dried.

Limas	4.75@4.90
Pink	3.15@3.25
Small white	3.35@3.50
Large white	3.00@3 10
Lady Washington	3.45@3.50
Black Eyes	3.50@3.75
Red Kidneys	3.25@3.50
Garvanzas	4.00@4.25
Bayo	3.15@3.25
Horse beans	2.25@2.40

Hops.

Hops per lb	.4@7
Hops old fancy	.1½@2½

Nuts.

Nonpareil	.13½@14
Ne Plus Ultra	.12½
Walnuts No 1	.13@13½
Hardshells	.12@12½

Honey.

Clear white comb	.16@17
Amber	.12@15
Extracted	.7½@8
Beeswax No. 1 per lb	.26@27
Beeswax No. 2 per lb	.23@25

Hay.

Choice wheat hay	15.00@16.50
Good wheat hay	14.00@15.00
Other grades same	11.00@14.00
Wheat & oat	10.00@15.00
Tame oat	10.00@14.50
Wild oat	9.00@12.50
Stock hay	7.50@@9.50
Alfalfa	9.00@13.50
Straw per bale	.50@.90

Grain.

Wheat No 1	1.57½1.60
Barley No 1	1.37½@1,40
Corn large yellow	1.60@1.65
Oats white	1.52@1.57½
Oats red	1.70@1.75

Feed Stuff.

Bran per ton	29.00@30.00
Feed cornmeal per ton	35.00@37.00
Cracked corn per ton	36.00@38.00
Rolled barley per ton	30.00@32.50
Oil cake meal per ton	38.50@39.00
Cocoanut caks per ton	26.00@27.00
Middlings	32.00@35.00

Citrus Market

LOS ANGELES, Feb. 26, 1908.—The conditions of the citrus market are better with a large quantity going forward. Total shipments are now about 10,000 cars, which is ahead of last year this date.

Shipments.

Total shipments of citrus fruits to date 9018 cars, of which 1372 are lemons. Last year same date 7329 cars, of which 903 were lemons.

NEW YORK, Feb. 25.—Sixteen cars of navels, three of lemons and one of budded were sold. Market continues active on navels, with prices unchanged. There is no demand for poor stock lemons, but good fruit sells readily. Weather clear and favorable.

NAVELS—	Avg.
Orchard T I Nat O Co	2.80
W T Michael	2.25
Whittier T I W F Whit	2.70
Lionhead T I I L Lyon & Son	2.35
Tigerhead T I I L Lyon & Son	2.20
Carnation Moul & Green	2.25
Mayflower R J Richardson	2.40
Buena R J Richardson	1.95
Rose Red O G Assn	
Clover Red O G Assn	
Niagara Stewart Ft Co	
La Mesa Riv Ft Co	
Golden Rule Riv Ft Co	
Sweetheart Highgrove Ft Ex	
Blue Globe Riv Ft Ex	
Red Globe Riv Ft Ex	
Riverside Riv Ft Ex	
Gold Buckle R H Ft Ex	
Dan Patch SB Ft Ex	
Greyhound SA Ft Ex	
BUDDED—	
Mission Bells A B Chapman	
Mission Memories A B Chapman	
LEMONS—	
Flower Gr Ft Co	
Flower Gr Ft Co	
Montecito Crok-Sperry	
Las Fuentas Crok-Sperry	
TANGERINES—	
Mission Bells A B Chapman	
Flower Gr Ft Co	
Pct SA Ft Co	
Flower Gr Ft Co	
Blue Globe Riv Ft Ex	

Afternoon sale, five cars of na

BOSTON, Feb. 25.—Seventeen
were sold. Weather favorable;
ket easier; twelve cars on the tra

NAVELS—	
Homer QC Ft Ex Corona	
Family T I QC Ft Ex Corona	
Royal Knight RH Ft Ex Red	
Cosmos S BFt Ex Yerkes S	
Golden Rule Riv Ft Ex Riv	
Alpha Riv Ft Co	
Elephant Rubidoux Ft Co	
Redlands' Best Red O Gr Assn	
Signal Stewart Ft Co	
Aloha Red O Pack Co	

NEW YORK, Feb. 24.—Twent
cars of navels and four cars of len
were sold. Navels doing better; h
er on all sizes. Lemons in good
mand for good stock; poor stock
wanted. Weather clear and cold

NAVELS—	
Criterion Penn Ft Co	
Hacienda Penn Ft Co	
Alta Cresta AH Ft Ex	
Robusta AH Ft Ex	
Golden Fruit T I Riv Ft Ex	
La Mesa Riv Ft Ex	
Sweetheart Highgrove Ft Ex	
Yankee Doodle Highgrove Ft Ex	
Stag T I ACG Ft Ex	
Hunter T I ACG Ft Ex	
Cosmos SB Ft Ex	
Royal Knight RH Ft Ex	
Iris DM Ft Ex	
Ben-Hur RH Ft Ex	
Planet AH Ft Ex	
Whittier ST Ft Ex	
Pico ST Ft Ex	
Geo. Washington	
Pointer ACG Ft Ex	
King-Midas T I C E Whitcomb	
Lionhead T I I L Lyon & Son	
Tigerhead T I I L Lyon & Son	
Producer Red Or Prod Co	
San Rafael Grs Ft Co Bailey	
La Verne M L Sparks	
Lionhead T I I L Lyon & Son	2
Producer Red O Prod Co	2
Wolf Penn Ft Co	3
Orcard Nat Or Gr Assn	2
Cal. Sunshine T I O Gr C Assn.	2
Colonel T I O Gr C Assn	2
Sunshine O GGr C Assn	2
LEMONS—	
Tunnel ST Ft Ex	2
Montecito Crock-Sper	1
Rossmoyne.. F H Ross	2
Independent Cleghorn rBos	2
Choice	
BLOOD (boxes.)	
Golden Rule Riv Ft Ex	
Iris DM Ft Ex	
Violet DM Ft Ex	
BLOODS (half boxes.)	
Fayette Penn Ft Co	
Iris DM Ft Ex	1
Violet DM Ft Ex	1
TANGERINE (half boxes.)	
Lionhead I L Lyon	1
Lionhead	1

BOSTON, Feb. 24.—Twenty c
were sold. Weather favorable. M
ket is unchanged. Eleven cars are
the track.

NAVELS—	
Floral SB Ft Ex Colton	
Sweetheart Highgrove Ft Ex	
Queen Bee QQC Ft Ex Corona	
Cosmos SB Ft Ex Yerkes S	
Cosmos S BFt Ex Yerkes S	
Rose Red O Gr Assn	2.
Clover Red O Gr Assn	2.
Signal Stewart Ft Co	2.
Cal. Sunshine Or Gro C Assn	2.2
West Highland Cleghorn Bros.	2.
Ruby CCU Dist 12	1.
LEMONS—	
Pct, SAFt Ex San Dimas	3.0
Duck SA Ft Ex San Dimas	2.2
Greyhound SA Ft Ex San Dimas	2.4

PHILADELPHIA, Feb. 24.—Seve
cars of navels, two cars of lemons an
one mixed car were sold. Weathe
cool; market stronger on good, fres
fruit. Six thousand boxes of Florida
were sold; market steady on Floridas

NAVELS—	
Quail OK Ft Ex O K	2.1
Pointer ACG Ft Ex Carter Oak	2.2
Coral SB Ft Ex Yerkes S	2.2
Vail Vista Grs Ft Co	2.3

Highland Cleghorn rBos.... 2.20
/e Son King Ft Co............ 2.26
.er ACG Ft Ex Glendora.... 2.06
ıos SB Ft Ex Yerkes S....... 2.37
hine Grove J F Bowen....... 2.34
Highland Cleghorn Bros.... 2.29
Keystone King Ft Co........ 2.27
ise J F Bowen...... .... 2.25
MONS—
hine J F Bowen.... .... 2.52
Beauty ST Ft Ex Lamanda.. 2.00
Beauty ST Ft Ex Lamanda.. 2.12
ın ST Ft Ex Lamanda....... 2.20

ΓTSBURG, Feb. 24.—Weather market firm.
ST Ft Ex Arroyo P.......... 2.10
ıos SB Ft Ex Yerkes S........ 2.20
ıine DM Ft Ex Duarte....... 2.05
enda Penn Ft Co.............. 1.95
ılander High Ft Gr Assn...... 2.30
ıie ST Ft Ex Arroyo P....... 1.85
.l ST Ft Ex Yerkes S.......... 2.05
il OK Ft Ex OK................ 2.15
en Flower Red O G Assn..... 2.25
illia Red M O Co........ ..... 2.30
en Sceptre Rialto O Co...... 2.20
EMONS—
ttier ST Ft Ex Whit........... 2.35
us.......... .... 2.20
ST Ft Ex Whit....... ...... 2.20
.OODS—
nine DM Ft Ex....... .... 2.50
.NGERINE (boxes.)
ɔte OK Ft Ex.... .... 2.60
ɛ OK Ft Ex....... .... 2.30

Γ. LOUIS, Feb. 24.—Weather cool; ket firm. Five cars were sold; en on the track. Floridas brought ı@1.60.
AVELS—
ɛ ACG Ft Ex Carter Oak.....2.40
ıter ACG Ft Ex Carter Oak... 2.15
RH Ft Ex E High........... 2.15
vsboy RH Ft Ex Red.......... 2.10
RH Ft Ex E High.......... 2.20
nter ACG Ft Ex Charter Oak 2.30
hinvar RH Ft Ex E High..... 2.25
-Hur RH Ft Ex Red........... 2.50
hinvar RH Ft Ex High....... 2.35
'NCINNATI, Feb. 24.—Weather ; market steady. Five cars were ; three on the track. Florida ɛnts, $1.45@2.05; Russets, $1.60@2.15.
AVELS—
·k SA Ft Ex Claremont......... 2.30
yhound SA Ft Ex Claremont 2.25
EMONS—
yhound SA Ft Ex San Dimas 2.45
k SA Ft Ex San Dimas........ 2.10
ANGERINES (half boxes.)
·k......... .... 1.65

LEVELAND, Feb. 24.—Market ng; weather favorable. Nine cars e sold and twelve are on the track.
AVELS—
l C Covina Ft Ex...... .... 2.10
SA Ft Ex 2.20
ral Knight RH Ft Ex........... 2.35
ı-Hur RH Ft Ex...... ....2.20
llands Oranges RH Ft Ex.... 2.05
Knight T I...... .... 2.35
vsboy T I RH Ft Ex........... 2.25
den Rule Riv Ft Ex........... 2.25
shine E Peycke Co........ .... 2.30
ıpy Haight-Bethel...... .... 2.35
EMONS—
ral SB Ft Ex.... .... 2.35
ıcho SB Ft Ex...... .... 2.05
AVELS— Avg.

A PERFECT HOME.

'he most perfect home we ever ı was a little home into the sweet ense of whose fires went no cost- thing A thousand dollars served a year's living for father, mother l three children. But the mother the creator of the home; her re- ions with the children were the st beautiful we have ever seen; ry inmate of the house involun- ily looked into her face for the ynote of the day and it always ıg clear. From the rose or clover f which in spite of her hard isework she always found time to t beside our plates at breakfast, wn to the story she had in mind read in the evening there was no ermission of her influence. She s always been and always will be r ideal of a mother, wife and memaker. If to her quick brain, ving heart and exquisite face had en added the appliance of wealth d enlargement of wide culture, re would have been absolutely the eal home. As it was, it was the st we have ever seen.

Farmers' institute held last week at n Fernando was one of the best d most interesting sessions held.

There are but a few cars left of the uthern California celery output.

Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

TREES.

20,000 SEEDLING AND GRAFTED WALnuts, fruit, ornamental trees, palms, roses. A thrifty, well grown stock. A. R. MARSHALL, nurseryman, sales yard cor. Third and Main streets. Santa Ana, Cal.

WALNUT TREES—5000 VERY FINE, LARGE seedlings. Seed selected from original Placentia Perfection grafted trees. Free from disease. Lowest prices. G. W. SHERWOOD, Fullerton, Cal.

BUDDED ORANGE TREES, VALENCIA and navel 2-year-old buds, clean and thrifty stock. Address F. E. CHAPMAN, R. F. D., box 34, Pasadena, Cal.

FOR SALE—SPECIAL PRICES ON 1300 Santa Barbara softshell walnut trees. W. R. CARPENTER'S ranch, Placenta, Cal.

FOR SALE—EUCALYPTUS PLANTS IN large or small numbers, blue sugar and red gums. Call or write for prices. JOHN R. HUMPHREY, 518 Oregon Avenue, Santa Monica.

FOR SALE—100,000 BLUE GUM (FINE plants.) Address L. Z. HUNTINGTON, Anaheim, Cal.

FOR SALE—2-YEAR-OLD SOFTSHELL walnut trees. Address J. M. McFADDEN, R. D. No. 1, Box 57, East Whittier, Cal.

What a Liner Will Do

J. C. Smith, of Burbank, reports that a little liner for three issues in the Cultivator brought to him large returns in orders for grape cuttings. Cultivator ads are winners. If you have something to sell tell the world through its columns.

EGGS FOR HATCHING.

FOR SALE—WHITE LEGHORN EGGS— From my 2000 laying hens I have selected 1000 of the best and mated them with Howard and McFarlane male birds. All mature birds, strong, vigorous and great layers. All orders promptly and carefully filled. Price $5.00 per 100; $45.00 per 1000. Phone, Glendale 641, C. M. WALTON, Glendale, Cal.

EGGS FROM MY PRIZE WINNING BARred Rocks; won all firsts, all seconds but one, and all specials on Barred Rocks at L. A. C. P. A. Show, 1907. Eggs from best pens, $3 per 15; $12.50 per 100. Stock for sale. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

WHITE LEGHORNS (HOWARD STRAIN), W. Wyandottes (Hubbard strain) Eggs; Leghorns, $5 per $100; Wyandottes, $7. Baby chicks FROM BRED TO LAY STOCK SHIPPED anywhere. Ranch 2 blocks from car. F. T. McLAUGHLIN, Gardena.

FOR SALE—WHITE LANGSHAN EGGS, in season, all the year, from first prize stock, $2.50 settingfi $15 per 100; White Indian game, $2.50; Black Wyandottes $2; fertility guaranteed. Vermont Square car to Budlong south to 57th. MOUNTAIN VIEW POULTRY RANCH, box 68, route 9, Los Angeles

S. C. WHITE LEGHORNS; LARGE AND healthy; heavy layers; eggs $1.50 per 15, $6 per 100. Special matings headed by prize winners $2.50 per setting. Correspondence a pleasure. C. C. HOCKABOUT, Watsonville, Cal.

RAISE POULTRY—IT PAYS—ORDER your White Leghorn and Wyandotte eggs now. Also Incubator Chicks, thoroughbreds. Prices right. The SAN GABRIEL POULTRY FARM, San Gabriel, Cal.

FOR SALE—EGGS OF THE FOLLOWING standard bred poultry: Black Orpingtons, the great winter layers, Brown and White Leghorns. J. J. VERKOUTEREN, route 3, Hanford, Cal.

EGGS FOR HATCHING—INDIAN RUNNER and Mammoth Pekin ducks; 75c per dozen; $4.00 per hundred. Fine stock, 90 per cent fertile. JOHN W. LYON, R. D. No. 1, Gardena, Cal.

FOR SALE—THOROUGHBRED INDIAN Runner Duck eggs for hatching. 75c per 13, $4.00 per 100. Fertility guaranteed. MRS. K. JURLING, 2284 F Street, Los Angeles, Cal.

S. C. BLACK MINORCAS—EGGS FROM special standard matings, $2 per setting. From good utility stock, $5 per 100. S. D. BICKFORD, Gardena, Cal.

EXCLUSIVE—EGGS FROM PRIZE WINning stock; Single comb Rhode Island Reds, $1.50 per setting. See my birds. H. P. SHEETS, Pomona, Cal.

S. C. RHODE ISLAND EGGS, WINSLOWS strain. $1.00, $2.00, $3.00 for 15. MRS. JOHN E. ADAMS, Box 785, Monrovia, Cal.

BROWN LEGHORNS—PRIZE WINNERS— Eggs $1.50 and $2.50 per 15; $5 and $7 per 100. C. H. VARY, Pomona, Cal.

CHOICE BUFF LEGHORN EGGS FOR sale, price $1.50 per 15. MRS. WILLARD CLARK, Orland, Glenn Co. Cal.

LIGHT BRAHMA EGGS FOR HATCHING. $1.00 per 15 or $6.00 per 100. J. S. BENNER, San Bernardino, Cal.

ARTICHOKES.

FOR SALE—JERUSALUM ARTICHOKES— The great winter hog feed. Address FANCHER CREEK NURSERIES, Fresno, California

GRAPE CUTTINGS.

CHOICE GRAPE CUTTINGS AND ROOTS— Cuttings, $3.00 per thousand; roots, $3.00 per hundred. Cornichon, Red Emperor, Thompson Seedless, Flame Tokay, Rose Peru, Muscat, Mission. J. C. SMITH, Burbank, Cal.

POULTRY

BLACK MINORCAS OF QUALITY—A Choice lot of large size cockerels bred to standard requirements. A rare chance to get an excellent breeder $2 to $5. One pen mated up for my own use of finest high scoring female specimens and layers, standard weight and over, to a grand cock bird which headed Geo. H. Northup's first pen last season. A few settings to spare at $3.00. J. P. McDONOUGH, Geyserville, Cal.

C. A. LATHAM STRAIN BLACK ORPINGtons—The greatest blood in the world. Won at the great score-card show 1908—2nd cockerel, 2nd 3rd 5th pullet, 2nd pen. Silver Loving Cup for best display pen of solid color. 2 club specials. Out of 8 entries won seven. Eggs $7.50 and $10.00 per setting. Eggs half price after June 1st. One trio for sale. Remember the best is the cheapest. C. A. LATHAM, 807 E. 23rd St., Los Angeles, Cal.

WHITE WYANDOTTES—"CREAM OF THE Coast" strain—the 200-per-year kind. Barred Plymouth Rocks, my "Blue Diamond" strain, are great winter layers of big, brown eggs. No incubator lots furnished. Eggs per 13, after Jan. 1, carefully packed, $1.50. Address WILLIAM C. PARKER, 111 Pacific avenue, Santa Cruz, Cal.

GERMFOE KILLS THE GERMS—GREATest disinfectant known. Sprayed about it prevents disease—a few drops better than a pound of cure. Large bottles 50c, or smaller bottle by mail prepaid same price, if your dealer hasn't it. Diluted with 50 to 100 parts water, a little goes a long way and costs but a trifle. WEST COAST MILL, 818 San Fernando St., Los Angeles, Cal.

EGG-MORE, THE GREATEST OF ALL "egg-makers" and the biggest seller. Highly concentrated though not a strong tonic and stimulant. A little daily with the feed does the business. A 25-lb. $2.00 pail for $1.50, if you haven't tried it; freight prepaid by us, if you name this paper. WEST COAST MILL, 818 San Fernando St., Los Angeles, Cal.

ALTADENA ORPINGTON FARM—MATSON Hayden, Box 1001, Pasadena. Golden Buffs exclusively; fine male birds a specialty. Settings $10.00 and $5.00. Five winnings at show in Los Angeles, 1908. Satisfaction guaranteed.

BUFF ORPINGTON DUCKS, THE GREAT commercial bird; good for market; great layers. Eggs now $3.00 per 12; $5.00 per 26 from our imported English blue ribbon strain. GOODACRE BROS., Compton, Cal.

DAYTON'S ROUP TABLETS ARE GUARanteed to cure or money back—not talk back—money. 50c by mail if your dealer hasn't . WEST COAST MILL, 818 San Fernando St., Los Angeles, Cal.

KILLAMITE KILLS THEM—BEST INSECT powder made for fowls or plants. 50c for 2½ lb. sifting can, express prepaid by us if your dealer hasn't it. WEST COAST MILL. 818 San Fernando St., Los Angeles, Cal.

COLUMBIAN WYANDOTTES — NEVER fail to win in the hottest competition. A few trios for sale. Eggs $3 and $5 per 15. F. J. IRONMONGER, 127 N. Garfield Place, Hollywood, Cal.

WHITE PLYMOUTH ROCK SILVER CUP winners at the big Chutes Park show, January 6th to 12th, 1908. Eggs, $2.50 and $2.00 per 13. Average score of first pen 95½. ADAM RANKIN, 271 Isabel St., Los Angeles, Cal.

WEST COAST CHICK FEED MAY COST A little more, but you can't afford to feed the little ones anything but the best. Of dealers, or $3.50 cwt., f. o. b. Los Angeles. WEST-COAST MILL, 818 San Fernando St., Los Angeles, Cal.

FOR SALE—LINE BRED WHITE ROCK cockerels from Mrs. Basley's original strain. Write for prices. Also eggs for sitting $2.50 per 15. MRS. KATE B. JOHNS, Compton, Cal.

FOR SALE—SOME FINE BUFF ORPINGton cockerels. Address S. R. THOMPSON, 1734 E. Washington St., Los Angeles, Cal. Phone South 823.

INDIAN RUNNER DUCKS AND BLACK Langshan fowls. Eggs and stock for sale. Large, fine stock, with good range and strong fertility. CLYDE J. MOSS, Corona, Cal.

ARROWHEAD STRAIN BARRED ROCK eggs—$2.00 per 13. MAX JENNEY, 6526 Pollard St., Los Angeles, Cal.

WHITE MINORCAS (EXCLUSIVELY)— Best layers of large white eggs. L. V. PETERSON, Guerneville, Cal.

BERRY PLANTS.

FOR SALE—MAMMOTH BLACKBERRY, 100, $3; 1000, $25; Himalaya Giant blackberry, 100, $4.50; 1000, $35. Express prepaid to California points, ADELBERT COOLEY, Laton, Cal.

WANTED—ONE-YEAR OLD LOGANBERry plants. Address P. O. BOX 2697, Fresno, California.

FOR SALE—3000 CRANDALL'S BLACKberries, fine plants at $10 per 1000. 1000 grafted field grown roses all the standard sorts at $15 per 100—the strongest rooted stock ever offered. H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

MELON SEED.

NO BETTER SEED GROWN THAN I OFfer you. Chilian watermelon seed white or red, 60c per pound; pineapple cantaloupe seed, 80c per pound by express. Mail fifteen cents extra; supply limited. S. FAIRBURN, Burbank, Cal.

GRAPE CUTTINGS WANTED.

WANTED—CUTTINGS OF THE FOLLOWing for grafting purposes: Rupestris St. George, Riparia x Rupestris 3306, Riparia x Rupestris 3309, Riparia x Rupestris 106-8 and Mourvedre x Rupestris 1202. Address FANCHER CREEK NURSERIES, Fresno, California.

MACHINERY.

FOR SALE—50 OR 60-H. P. FAIRBANKS-Morse gasoline engine as good as new. Can be bought cheap. WAITE, BAILIE & Co., Los Angeles.

FOR SALE—10-H. P. FAIRBANKS-Morse distillate engine in A1 shape. A bargain. N. W. cor MAIN AND BRUNO STS., Los Angeles.

FOR SALE—8-H. P. HORIZONTAL STEAM engine very cheap. 943 N. MAIN ST., Los Angeles.

FARM LANDS FOR SALE.

FOR SALE—1 to 10-acre tracts on car line between Riverside and new cement works. Good for chicken ranches, alfalfa or gardening. Will sell on easy terms. Plenty of water on each tract. C. C. POND & N. R. BELL, Riverside, Cal.

FOR SALE FOR $1750—AN UP-TO-DATE chicken ranch. Five hundred Rhode Island Reds. Well advertised. Good paying business in best inland town in State. If interested address "THE RED" care of Cultivator, 115 N. Broadway, Los Angeles, Cal.

FOR SALE—40 ACRES, LEVEL; FINE for chickens, vegetables, berries, etc., $30 per acre; a bargain. WM. MANTZ, Santa Maria, Cal.

FOR RENT—FORTY ACRES OF YOUNG orchard for vegetable crop on shares, situated three miles from cannery. Owner, D. F. CONANT, Route 4, Bx 64, Modesto, Cal.

MISCELLANEOUS.

DELMONICO'S CHEF SAYS: "THE ANchor egg separator works perfectly; no well regulated hotel or household can afford to be without it." Send ten cents, or ten names of persons keeping poultry, and we will send one postpaid. WEST COAST MILL, 818 San Fernando St., Los Angeles, Cal.

FOR SALE—TWO HUNDRED THOUSAND Palmetto asparagus plants. Also four varieties of almond trees. Extra fine stock of plums, peaches, pomegranates, etc. IMPERIAL VALLEY NURSERY, Imperial, Cal.

I HAVE TEN HIVES OF BEES FOR SALE on my ranch near Crafton. Address L. LODGE, 1375 East Ocean Ave., Long Beach, Cal.

FOR SALE—I HAVE TEN TONS GOOD barley hay which I will sell cheap. Call or write. WM. HUME, Puente, Cal.

HORSES.

FINE PERCHERON STALLION FOR SALE by MRS. M. E. SHERMAN of Fresno, Cal.

PLANETS.

A valuable little booklet has been issued by the S. L. Allen Company of Philadelphia, Pa., which, we understand, will be forwarded to any inquirer who requests it if the Cultivator is mentioned. Some people may not understand who S. L. Allen & Company are, but when it is mentioned that they are the Planet, Jr., people, and that the booklet is full of information regarding hand and horse cultivation, it will be seen that it is one of valuable information.

NOTICE TO POULTRYMEN.

Our liner column contains an advertisement of a poultry ranch, stock and equipment for sale. Here is a splendid opportunity for some one to step right into a good business, as the plant has been established for several years and is past the experimental stage. The owner has good reasons for selling and if you are at all interested it might be worth your while to answer this advertisement.

A friend from the north had gone to visit the Colonel, who lived in the swampy Mississippi river bottoms of Louisana. There was no mosquito netting over the bed, and in the morning, when the negro came with the water and towels, the tortured visitor asked: "Sam, why is it that you have no mosquito netting over the beds? Doesn't Colonel have any in his rooms?"

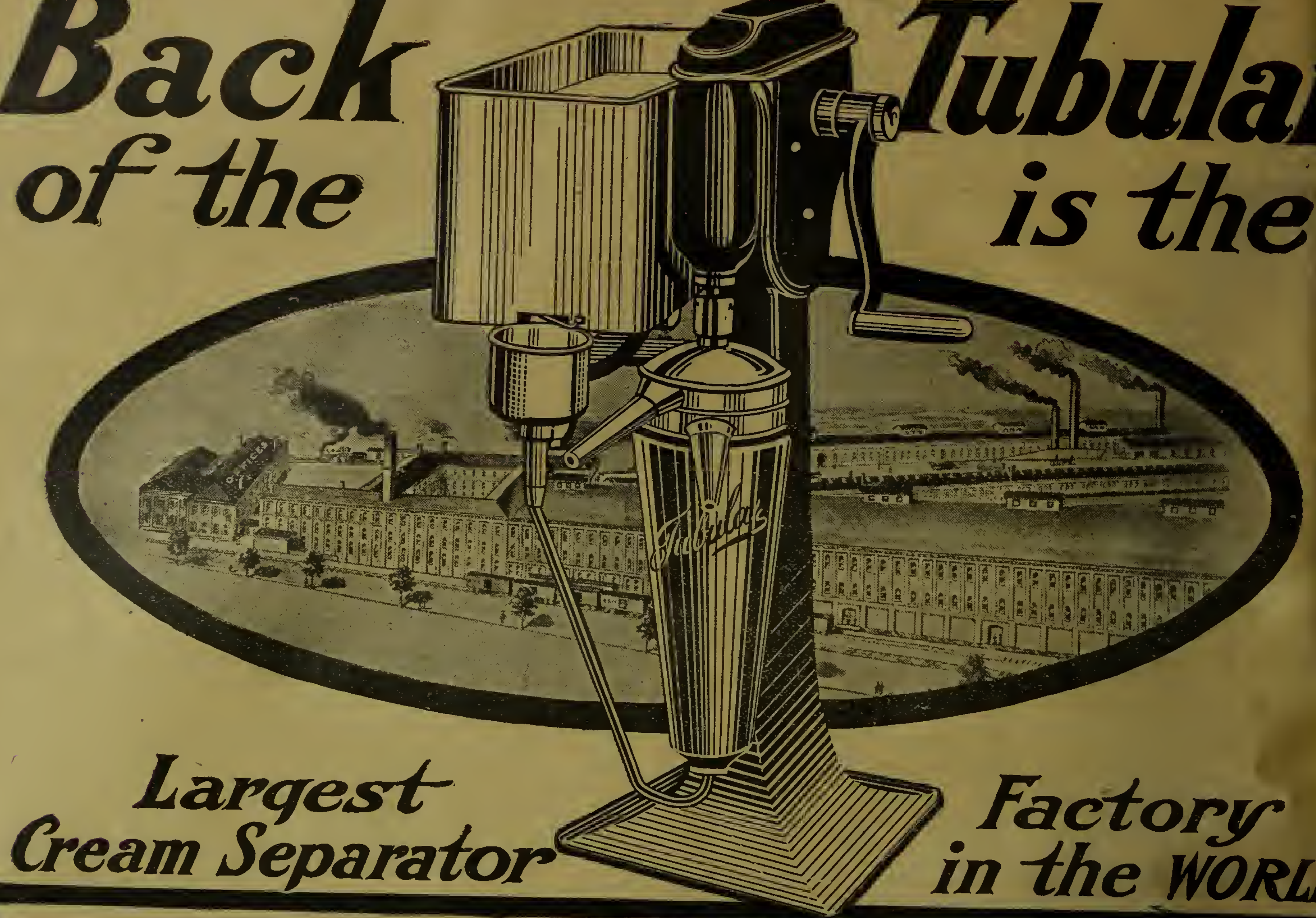
"No, suh," replied Sam.

"I don't see how he stands it."

"Well, suh," said Sam, "I reckon it's jes' dis way; in de fo' part uv de night, suh, de Colonel's mos' gen'ally so intoxicated dat he don't pay no 'tention to de skeeters; an' in de last part uv de night, suh, de skeeters is mos' gen'ally so intoxicated dat dey don't pay no 'tention to de Colonel."

The proposition of the Washington hop growers to reduce the hop acreage next year, has been reecived with favor by the hop growers of Northern California, and it is probable the movement will be general over the coast.

Back of the Tubula is the Largest Cream Separator Factory in the WORL



WHAT does that mean to you, Mr. Farmer, when you conclude to buy a cream separator?

It means that when you buy a Tubular back of your purchase stands the safest, **surest, strongest** guarantee you can possibly get—something that stands as a positive evidence its product must be the best—something that proves beyond question its product must be superior to all others, or the **largest factory in the World** would not have become necessary to fill the demand.

All the printed claims and guarantees of merit ever written can't compare to this concrete fact—this great monument of proof that Tubulars are the most popular separators on the market today.

"Nothing succeeds like success," and the reason it has been possible to build up the largest separator factory in the world, is simply because Tubulars are an actual, practical success. Because they are the best in the world.

60,000 Tubulars were sold last year; and this year, so far, promises a big increase. Every one sold makes more sales, for their buyers can't help but tell their neighbors of their exceptional superiority.

It is no longer a question whether it pays to buy a Cream Separator. That has become a fact long ago, but it is a difficult question with many as to which Separator to buy, for the reason that so many cheap, impractical and unreliable machines have been flooded upon the unsuspecting buyer. They have been advertised in most glowing terms—offered on what seemed impossible-to-be-deceived grounds, that many purchasers have been caught to their sorrow later on.

For these and many other reasons we say that it means a great deal to the buyer today what is back of the Separator you buy.

When an article has sufficient merit to succeed; to grow to be the most extensively sold; requires the largest factory in the world to supply the demand; wins in every fair competition, is it not wiser, safer, cheaper in the end to put your money and trust into that article, knowing what is back of it, than to take chances on something that has none of these buying **safeguards** to protect you?

But that is not all. In buying a Tubular you get the product of the most skillful separator builders in the world; the most practical machine genius can devise; the highest type of perfection money and brains can build—the result of a life-time of concentration and determination to produce the best separator in the world.

Don't You Know

that the growth, success, reputation and size of the business that stands back of your purchase is the best, SAFEST guarantee you can get?

It is the ABSOLUTE PROOF that the article you buy is of true merit and worth.

The bigger the business—the safer your purchase and the better the guarantee back of it.

Don't let low prices blind you. The best is the cheapest — that's a TUBULAR.

And what's the result?

The illustration at the top of this page, the factory back of it, and a record of more satisfied purchasers than all others combined.

When you buy a Tubular you have the positiv assurance that you have a separator that will get from 10 to 50 per cent more cream from your milk than any other; that it will turn much easier; that it is the simplest in construction; has fewest parts, consequently easiest to clean and less liable to breakage; has low supply can; is most durably built and is backed by the biggest and most experienced builders in the business.

Then why take chances on your separator purchase? You have everything to gain in buying a Tubular—nothing to risk. In buying a separator here are the vital points to consider:

Which Separator gets the most cream?
Which Separator is easiest to turn?
Which Separator is easiest to clean?
Which Separator has the fewest parts?
Which Separator has no back-breaking supply can?
Which Separator is most durable and costs least for repairs?

In short—get a Tubular and you'll never have cause to regret. Next to your own experience, that of others who have Tubulars, is as good a guide as you can get, especially when they tell by comparison with other makes why they prefer Tubulars. Send for our 1908 Catalog—it gives many letters on these points.

Just get a postcard and write for it today. It tells all sides of this story of separator buying; gives comparative tests of the Tubular and others; letters from dairy authorities, universities, and shows the Gold Medal awards—the highest honors ever awarded to a cream separator.

If you have an unsatisfactory separator now, write to our Exchange Department and see how easy we make it for you to exchange your old machine for the easy running, clean skimming Tubular. You'll find the Exchange the most profitable experience you ever had. Write for Free Catalog No. 260 today.

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California Cultivator

s Angeles March 5, 1908 San Francisco

All Wool and a Yard Wide

'eaceful Pasture in the Northern End of California, Where the Spreading Tree is Spared to Give Protection to the Flocks

Educate the Youth of America

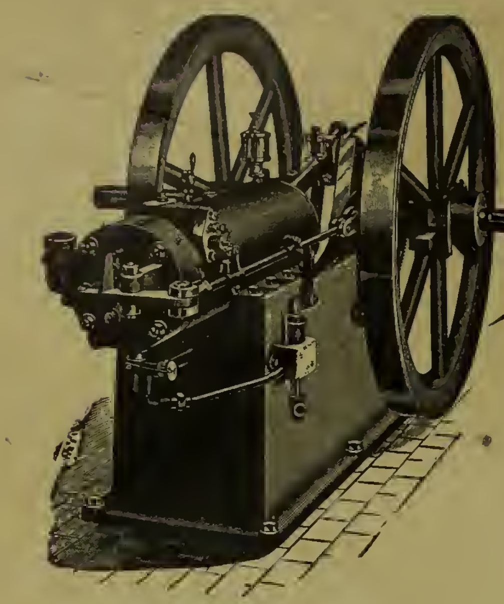
ident Roosevelt Heartily in Sympathy with the Greater Educational Opportunities for Rural Youth

NGRESSMAN C. R. DAVIS, of Minnesota, feels greatly en-
uraged concerning the passage in the near future of his indus-
al high school bill. The numerous endorsements from the
educational men of the United States, including favorable reso-
rom many educational organizations, farmers' associations,
lleges of agriculture and mechanic arts, commercial organiza-
ards of trade, manufacturers' organization and industrial orga-
s generally throughout the country have inspired the hope
ngress will be induced to consider favorably the measure dur-
present session.

Regarding this move to aid the youth of the farm, the President recently said in a speech at Keokuk:

"We should strive in every way to aid in the education of the farmer for the farm, and should shape our school system with this end in view; and so vitally important is this that, in my opinion the federal government should co-operate with the State governments to secure the needed change and improvement in our schools. At present there is a gap between our primary schools in country and city which must be closed and, if necessary, the nation must help the State to close it. Too often our present schools tend to put altogether to great a premium upon mere literary education and, therefore, to train away from the farm and shop. We should reverse this process."

STOVER !!!



5 to 50 H. P. Horizontal

Why experiment? We point with pride to our past work. Let us take you in our automobile to see plants in operation. We do not claim to have the cheapest engine on the market but we do claim to have the best. Another car on the way.

Cheapness when you buy is not always cheapest in long run.

Our price is reasonable but not absurd.

We want Agents in County Towns—Hustlers.

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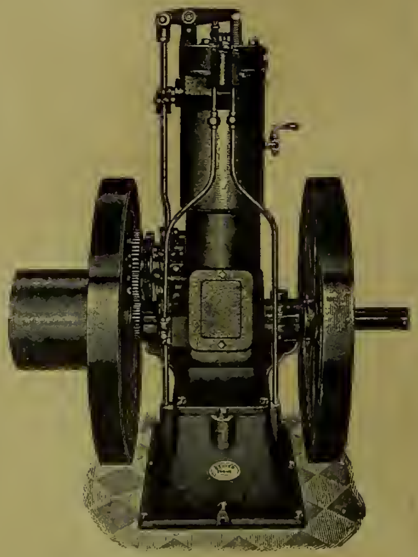
352-354 S. Los Angeles St., Los Angeles



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5-H. P., $170
6-H. P., $200

Fully guaranteed. Send for Catalogue of these engines at once.

Norton Engine & Power Co.

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The Commercial represents all that is modern in Gas Engines. Which is not only durable and reliable, but preeminently a fuel saver. Manufactured in all sizes from 2 to 150 H. P.

Write for Bulletin No. 11.

Commercial Engine Company
953-5 North Main Street, Los Angeles

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make prompt del

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and estimates.

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much lighter and easier to
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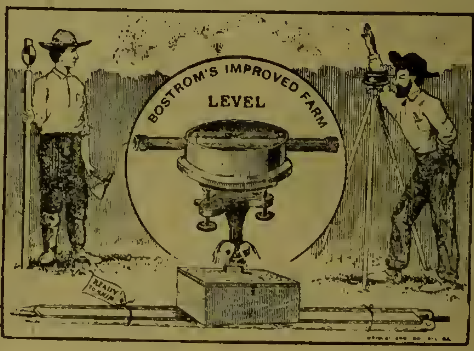

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method of pumping,

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Harris Air Pump Co.,
Los Angeles, Cal.

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XX--No. 10 Los Angeles, California, Thursday, March 5, 1908 Subscription $1 a Year

onor Arbor Day by Planting a Tree

City Forester Edward J. Harper of Los Angeles Appeal for Beautifying the Streets of the City, Which Applys With Equal Force to Beautify the Roadways of the Country

THE TREE. I wish I could write that sentence on all hearts, for we shall ut little in developing the City Beau- he masses of our people know and have igent love of the tree. The tree has important part in the development of It has had its place in song and story, y and religion, in legend and in fact. has had an important part in every re- t has taken any large hold on the race r own Christian religion in its opening is the tree of Knowledge of Good and has so much to do with the development t parents. Throughout the pages of the es have their parts to perform in the f the church and the nation. In the ages of this good old Book, when it l us of the "Morning Land" for which nd to which we look with yearning eyes, ree hard by the river of life whose leaves he healing of the nations. I am per- at in our modern life the tree has us that will tend to the solving of the lems that are crowding upon our great

re if I did not have a revealed religion rt and bless that I should be like my the old Druids, and bow down to the the trees. So I say, **love** the tree. In- the minds of the young a respect for f the tree and the importance it bears ty's life. It is remarkable how many eem the tree, and the carelessness they concerning its welfare. The way that re allowed to break and destroy the wing trees along our streets is almost nd the utter disregard of the tree shown erage deliveryman is even worse. The struction of the symmetry of the street e utility companies is one of the worst f modern city life. All of these evils be, overcome, and only the intelligent e tree will bring about the needed re-

can be beautiful without street trees. gant mansion, though stately, can never nor really beautiful until the tree planted near to lend grace to the other- n effect. I wish to say further that it e in the long run to have a homely city autiful one, more to have an ill kept one that is orderly. Trees will cost ey and some care, but we can afford money on our homes where we expect e future great Americans. Streets that ned and beautiful are just as necessary ordered city as warehouses, counting l fire departments. I know that many nk so, but that is because they think a for the making of **money**, while I am a city exists for the making of **men**. It lly important in this age of strenuous s age of machine-made life, that we es of quiet and restfulness where we e from the turmoil of struggle for gold. o rests tired nerves as a touch of na- hing so soothes and calms after listen- click of the typewriter all day as the ghing of the trees as they whisper to r the lullaby of night. I wish that d office man and mechanic could have a home facing a street with broad parking along which well cared for trees would wave him an evening greeting. We need to make our growing youth realize that there are many things in life that money can not buy and that the soul and intellect will perish if fed on gold. Nothing will help us more than to teach them a love of the tree and to throw them in daily contact with life as manifested in the tree.

I am amused and pained frequently at the excuses that are given as reasons for destroying many of the old trees of our city. One woman wished to cut down a fine old pepper because the birds rested in it and their songs disturbed her morning slumbers. Another wished to cut down one because the leaves dropped and it was so much work to sweep the sidewalk. These are but examples of many foolish reasons that I meet in my desire to save the trees that we now have. Therefore I say, **love** the tree.

E. J. HARPER City Forester of Los Angeles.

We must plan for the tree in making our streets. Many of the difficulties we now face grow out of the fact that the tree was never taken in the count in laying out and making the streets. We have not made our streets as broad as they should be and we have not given the right proportion to parking. By so doing we have added greatly to the expense of making and keeping up the streets. In the residential districts where the streets are sixty feet wide, only thirty feet should be given to the driveway, and then on each side fifteen feet should be given to sidewalk and parking. This would permit ten feet for parking. We might grow trees in that much ground. The effect of a strip of grass ten feet wide with a row of uniform trees on either side of a street is most pleasing and would give a decidedly parklike appearance to the whole street. It would be far less expensive a proposition than the old way and would be far more homelike and wholesome. On an eighty foot street, forty feet for the driveway is far better than sixty unless there is a double car line to run along it. Sooner or later we must do away with poles and wires. The only satisfactory solution is the conduit and to that we must come. A makeshift is the alley, but when we have as few alleys as in Los Angeles we cannot even use this means of relief. I think that all cities should own conduits and lease them to utility companies, thus bringing to the city a revenue and at the same time solving one of our difficulties.

The street tree should be under the entire care of one head. This department should direct the planting, the care, the pruning, and when necessary, the removing of all trees. Sufficient force should be given the Forester and a sufficient sum of money to enable him to accomplish results. As to what we shall plant depends upon the soil, the width of the parking and in a degree the location. Most people in California prefer the evergreen trees and we have a variety that do well in this climate and that will be quite distinctive of our Southern California. Among these I will mention the camphor, the sterculia, the carob, or St. John's Bread, the acacia (some three or four varieties), the jacaranda (almost evergreen), the magnolia, the California bay or laurel, the Catalina cherry, the cedrus deodora, and, under certain conditions, a few of the palms.

But I am persuaded that we also need some deciduous trees. There is a beauty and freshness about them that the evergreens never give us. Of these the oriental plane, or sycamore, the tulip, the white ash, the California maple, the horse chestnut, the elm (though it does not do well in Los Angeles), and some of the oaks.

I am sure that we should give more attention to the planting of slow-growing trees, as they are long-lived, and we need to plant for the future as well as for the present.

A GREAT CONVENTION.

A great convention is being planned for Riverside. State Commissioner Jeffrey was down from Sacramento last week and informed us that plans are perfecting for many new features.

Mr. Reed, of Riverside, sends in a first draft of some of the features of the convention. Tuesday, April 28, will be given over to addresses by Mayor Evans, Governor Gillette, Commissioner Jeffrey. Later in the forenoon J. H. Reed will lead in an address on handling Citrus Fruits, the main points of which are founded on Powell's investigations. That will be followed by extended discussion, in which Mr. Powell will lead.

In the afternoon Elbert Lyon, of Redlands, James Mills, Riverside; C. C. Teague, of Santa Paula; Mr. Allen, San Diego; Commissioner Jeffrey and County Commissioners Cundiff and Pease, will discuss Citrus questions.

Other names appearing on program to follow are: F. L. Palmer, of Pomona; Mr. Lindley, Geo. C. Roeding, Fresno; B. J. Jones, San Dimas; C. E. Rumsey, Riverside; F. P. Hasp, Oceanside; Leonard Coates, Morgan Hill and many others.

Four days packed full in which is one evening reception by the Woman's Club of Riverside. The full program will be given in the Cultivator as soon as issued.

Kubelik, the famous violinist, made his start as a market gardener. He is 27 years old, married to a Bohemian Countess and now is very wealthy. He earned his money to buy a violin from produce raised by his own hand on a little garden.

Sixty per cent. more students registered at the State Agricultural College, Salt Lake, January 1st, 1908, than registered a year ago at the same date.

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Process and Formula Patented
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Deciduous Fruit Cult

CULTIVATION AND IRRIGATION.

WITH the great variation in types of soil found in our fruit growing sections it is impossible to lay down any definite rules for the application of water or cultivation of the orchard. Each grower has a problem of his own and he alone can best solve it. However, a few important principles may be suggested which will aid the observing orchardist in the proper handling of his particular soil. Careful observation and common sense will do much to overcome difficulties now commonly experienced in irrigation fruit growing.

Plow Display.

Many of our soils are too heavy to be easily handled under irrigation as commonly practiced. With frequent irrigations and meager cultivation they become hard and refuse to take water properly. Careful irrigation and more rigorous cultivation will do much to overcome this difficulty. Heavy soils should be plowed from six to eight inches deep at least once each year. The destruction of small roots by the plow will do no damage, while the breaking of larger roots may be avoided by shallow plowing near the tree. When once outside the confines of the ditch, the lateral movements of the water are much more rapid than downward, and as a result, the surface soil is saturated to the extent that the benefits generally derived from plowing are lost. The soil is run together, and before it is in shape to cultivate, it is hard and baked. This is especially true of the soil at the upper end of the orchard, when an attempt is made to water long rows in newly plowed land. This is also a suggestion to those who have a crop to plow under in the old orchard or land to prepare for the young orchard. The earlier this crop can be turned under the better. The young orchard on late plowed alfalfa land ofte
poor start on account of t
amount of water taken
loose soils.

Subsoil.

In the practice of irrig
growers fail to take into
tion the condition of t
Only irrigators of long
with the particular piece
properly water it by exa
the surface soil alone.
irrigator relies upon frequ
nation of the subsoil to g
the application of water.
possible exception of v
soils, the matter of proper
is greatly simplified by v
deep ditches. The surfac
saved from a thorough w
the ditches may be floated
in twenty-four or forty-e
after turning off the water.
watering in shallow ditche
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ditches should always be fi
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it is always best to start th
with a large head of water.
ing the water through the
then shutting it down to ju
to carry through, it is po
more uniform watering.
watering at greater inter al
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waterings. Heavy watering
ever, should be followed by
and frequent cultivations.
waterings are detrimental t
soil aeration, and without
cannot grow. This expla
overwatering is especially
mental to young trees. T
orchard which receives a
watering once a month, s
ed by careful cultivation
better growth than on
every ten days and given
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Some growers are beg
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States, at once think of
fertilizers. Many fail to r
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lizers are soluble in w
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ments in the soil. To fa
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abundantly supplied with
organic matter. Soils of t
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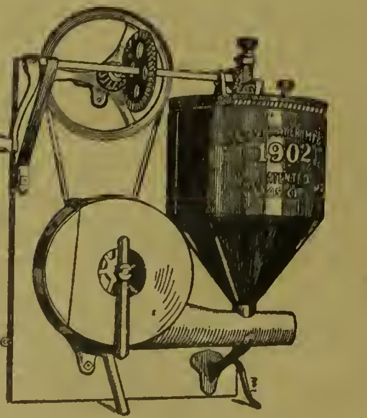
cannot be expected to giv
tory or profitable returns.
will soon come to the plan of
crops in the orchard in late
to be turned under the f
winter. This incorporation
ganic matter will not only
the fertility of the soil, but
the heavy soils more friable
crease the water-holding
some of our sandy
B. Whipple, Field Hort
Colorado Experiment Stati
ern Slope Fruit Investi

DUST SPRAYERS



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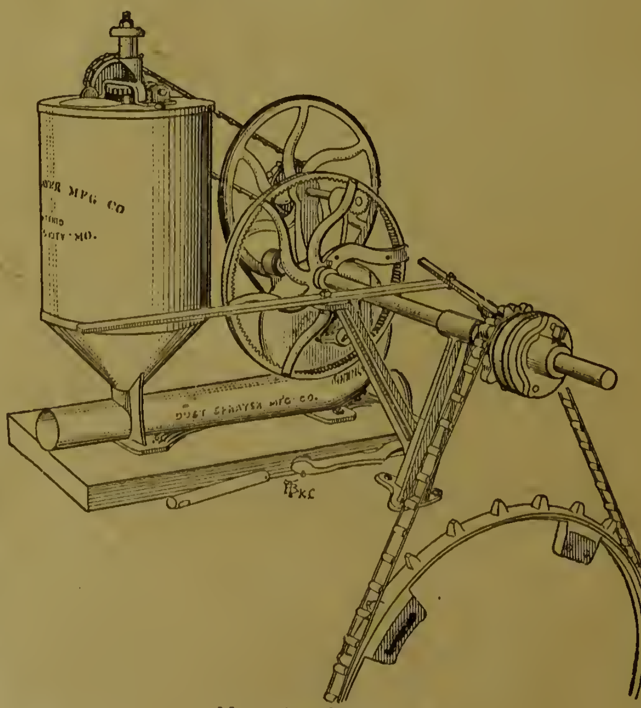

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French Prunes and Apricots, Muirs and Tuscan Clings, and many other varieties of Peach Trees; all fine budded stock. Large stock of all the varieties of Apples, grafted on whole roots e from all pests. Also a fine stock of s, Pears, Plums, etc. Send for price list.
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GRAFTING WALNUTS.

One hundred and fifty walnut trees in the Neff orchard southwest of town will be cut back in a few weeks to be grafted to a variety resistant to the blight. These trees are fourteen years old and have attained a fine growth, but lost half their nuts the past season from effects of blight. During the past year Mr. Neff has looked over many orchards in Southern and Northern California for trees showing qualities resistant to the blight, and some months ago discovered in his own orchard a tree which seems to fill the bill. This tree produced 200 pounds of nuts last year and seemed to have very little blight. Grafts from this tree will be taken and attached to the trees that blight. The work will be done by an experienced nurseryman from the North who has made an especial study of this method of ridding orchards of the blight.

A number of growers throughout Southern California have grafted a single tree with resistant stock, but Mr. Neff will work over ten acres of his orchard at once. If the grafts prove successful, and of this he has no doubt, he will graft a larger area next year, and continue until his entire orchard has been reset with new growth.

He expects these ten acres of grafted trees will in four years produce three times the quantity of nuts than the trees now covering the tract. These trees have been carefully attended to since being set out. They have had cover crops and fertilizers according to scientific treatment and have made an excellent growth, yet they annually shed half their crop. The tree in the orchard which shows resistant qualities came from the nursery and was planted at the same time. However, it is a fact well established by experience, that different variations in nut trees are produced from nuts taken from the same tree.

This will undoubtedly be the largest area grafted in any walnut orchard in the State, and has already attracted widespread attention in various sections. The operation will take place in March, and due notice will be given so that growers may witness the process.—Anaheim Gazette.

DISCHARGE THE JAPS.

Now is the time when some of the ranchers hereabouts might with much of advantage to all concerned, and not the least of this advantage to themselves, by any means, discharge any Japanese they may have in their employ as farm hands and give the work to the many unemployed white men in this vicinity.

There has been a time in the past when good, reliable white men were not to be had. White men there were—white in color, that is—but not reliable men. The good-for-nothing hobo has ever been with us in some numbers, and it is not to be expected that any rancher will hire an unreliable man, no matter how loud the shouts of the agitators—who are as ever with us as the hobo. But it is different now. There are a dozen good, hard working white men hereabouts for every job. They are bone of our bone and flesh of our flesh, and every dollar they make they will spend with us. Some Japanese are still holding the jobs they secured while white labor was scarce. It may be some trouble to the rancher to break in a new man to do the work, but his duty in the case is very clear. It is no time for the employment of Japanese while white men are suffering.—Redlands Review.

GRAPES

Every grower knows how the well-nourished vine responds to cultivation and care.

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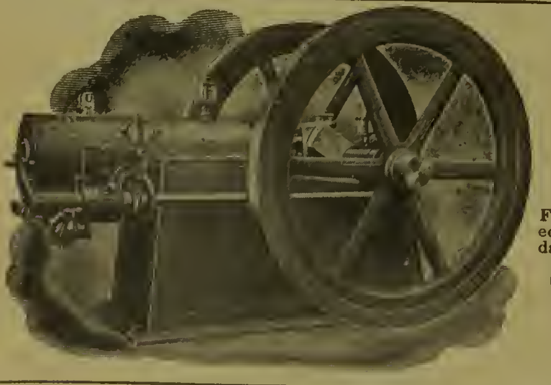

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SOIL TEMPERATURE A FACTOR.

NITRIFICATION in the soil takes place most rapidly when the temperature approaches 90 to 100 degrees.

Orange roots naturally seek this soil zone and there may be nothing gained by forcing them below this if such a thing were possible, and much may be lost.

The Florida sour stock roots much deeper than other varieties of citrus stock and on that account will withstand more drouth, but individual trees which have a large surface root system produce more fruit than those which have a larger percentage of the roots deeper in the soil. This was discovered at the Pomona Experiment Station. An examination of the soil showed that at three to nine feet below the surface the soil contained more than sufficient moisture for the needs of the trees at all times between irrigations. The orchard had been irrigated at intervals of six weeks to two months, the water having been allowed to run three days at a time.

This was to induce deep rooting. Still it did not have that effect except on those varieties which naturally grew a deep root system. It is true that stray roots could be found eight to ten feet deep in most cases, but 80 degrees to 90 degrees of the roots of sweet orange and pomelo trees were within two feet of the surface. The orchard was never plowed but in one direction each year, but each year it was plowed crosswise of the direction in which it was last plowed. The cultivator never cut as deeply as the plow ran, and when the plow cut through the strip of land that had not been turned for two years, the soil was a mass of orange roots, showing that with deep irrigation and no fertilizer there was a strong tendency for the roots to grow near the surface.

Why was this? No fertilizers were applied, and as the surface in such places was comparatively dry during the irrigation season, shallow application of water and fertilizers were not factors in developing a shallow root system.

It is our opinion that the temperature of the surface soil during the growing season has more to do with the development of a shallow root system than soil, water and fertilizers.

This being the case, is it desirable to force the roots deeper than is absolutely necessary to give space for the fine earth mulch? Some of the most productive groves in the State have never been plowed, the roots being allowed to collect just beneath the reach of the cultivator when it was run shallow. A liberal supply of stable manure and commercial fertilizer on a light sandy soil makes this possible. These conditions have been noted in several places, but where the soil is heavy we have never seen an orange grove successfully handled in this way, but other things being equal, there is much evidence that the shallow rooted orange tree so handled that these roots are kept in good tion and not mutilated, bears t fruit.

The following table is sug that the soil temperature is a argument in favor of a shal system. The figures were obt the writer on the Chino ranch gust 15th and 16th, 1901, and fair average of temperature ta a number of days during the Standard government soil the ters were used.

It will be seen that at six inc soil remained close to the m vorable temperature for the w of the soil bacteria, which prom fertility of the soil.

	6 a. m.	8 p. m.	10 a. m.	12 m.	2 p. m.	4 p. m.	6 p. m.	8 a. m.	6 a. m.
Atmosphere	65.0	78.0	86.0	87.0	88.0	84.0	73.0	73.5	63
Surface of soil	62.0	97.0	136.0	137.0	135.0	120.0	81.0	74.0	63.
1 inch deep	73.5	80.5	99.5	108.0	111.0	108.5	95.0	85.5	71.
3 inches deep	77.5	79.0	90.0	96.5	100.5	101.0	96.0	89.5	76.
6 inches deep	81.0	80.5	83.0	86.0	89.5	91.5	92.0	89.5	81
9 inches deep	83.0	82.5	82.0	82.5	83.5	84.5	86.0	86.0	83
12 inches deep	83.0	83.0	82.5	82.5	82.5	83.0	83.5	84.5	83.
24 inches deep	80.5	80.5	81.0	81.0	81.0	81.0	80.5	80.0	80.
36 inches deep	78.0	78.5	78.5	78.5	78.5	78.5	78.5	78.5	78.

FARMERS CALL FOR A PREVENTIVE.

PANICS are mischievous! an exception! Even the caused by a mouse in a seminary wastes energy, tim money. Almost all panics ventable. Financial panics a uted to many different causes. Some one said our last was by somebody calling for a dolla not getting it. Ruin seized the try because of suspicion. Distr the stability of our "financial tutions" made people hoard money under the mattress or in in the wall. They feared to tr to banks.

How can this distrust and f overcome?

In the easiest and most way—by having banks wholly t worthy.

How?

By having all the resources o government of the United Sta the resources of the American p back of them.

Over $700,000,000 of the Brit tion's money is held in postoffice ings banks by the British governm This is available at any time, or no uanic, at any postoffice sacting savings bank business United Kingdom. This fact renders financial panic an alm solute impossibility.

It may recur to you how M telyou's throwing on the $100,000,000 of United States T money, stayed the late panic i United States. It will be easy to realize what a power this 000,000 of the people's money, available, would be as a panic er.

Further, if the workers of Britain can amass this en sum, it is fair to infer that h postoffice savings banks here would at least hold as mu capita for our population, or 000,000. Fancy the effect of t mendous aggregation of the p capital, always absolutely s ways get-at-able, in all parts land. Would not this two b make any such event as our scare look sick and silly? T would be no temptation to any o hoard money in old stockings postoffice savings banks would be safer—impregnable.

Do you say "we ought to them?"

Of course we ought.

Why don't we?

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lem, Oregon, will hold a horse in April.

BENEFIT FROM COVER CROPS.

This series of articles reprinted from advance sheets of the report of the State Horticultural Commissioner of the address of James Mills, of Riverside, before the recent State Fruit Growers' Convention, will be concluded next week. We hope to include at that time valuable tables which Mr. Mills has compiled.

Pulverize.

Observe then. You go into a field. It has been plowed when it is a little wet; there are lumps the size of your hat, the size of marbles and on up to six inches or more in diameter. You know that you can not get the fertilizer elements in that. There are vast quantities of fertilizer inert in the soil that must be gotten by the friability of the soil. There are forty thousand pounds and more of potash in the first six feet of California soils, and I have no doubt there are from six thousand to eight thousand pounds of phosphoric acid in an acre; that there are over one hundred and forty thousand pounds of lime; not so much humus, not so much nitrogen. But you have got to pulverize your soil into the very finest condition of pulverization if you expect to get out of it the result. You go on one man's soil and say "How beautifully it pulverizes under the plow and the cultivator," and you go on another's soil and you see it in jagged lumps. You see in one field a large crop; in the other, a small crop. One man has great barns overflowing; the other has barns with the clapboards rattling in every breeze that blows from the four corners of heaven. You see his fences with moss on them because he has never been able to attend to them since the days of long ago. The one is the successful farmer, because he is getting out of the soil that which is in it for him; and the other is not getting it, because he has not properly worked the soil.

Warmth Necessary.

The temperature of the soil is affected by the humus, also. You take one soil and it is a dark color. The bacteria will be active with warmth in the soil. Bacteria will not be active under 47 degrees of temperature and they reach their greatest activity at about 97 degrees; therefore, we must see to it that we keep our soils warm. A dark soil is warm. Humus makes the soil dark. You may know, then, from the color of your soil whether you have a humus soil or a soil wanting in humus. A soil that is black will be several degrees warmer than one that is light.

Must Keep Out Heritage.

You know that we have about ninety millions of people in this country today; that we will have one hundred and twenty-five millions of people in thirteen years, according to a report of the Census Bureau; that we will have two hundred millions of people in 1950, and three hundred and twenty-five millions of people in 1990; and these three hundred and twenty-five millions of people must live off the soil that today is keeping measurably prosperous ninety millions of people. We are not the owners of this soil; the Almighty did not give it to us as our own. We have the title deeds today, but tomorrow we are dead and gone from the land to which no one ever returneth, and it goes to another, and it is your duty and mine so to conduct ourselves in the management of these soils that we will leave them richer than we got them. Not that it will cost us money to do it. Be assured that the men who are down at Berkeley, in Michigan and Dakota and all the states are endeavoring to teach us this principle of the handling of our soils, that if we keep them physically well by proper manipulation and put back the humus that we take out, we will get greater returns from year to year. For every dollar we expend in restoring the fertility of the soil we are repaid two.

How to Restore.

Go down South to the slave states. When they had the slaves it was easier to go out and clear another hundred acres than it was to restore the fertility of the one hundred acres which the cotton and the tobacco and the corn had exhausted, and so they went on clearing acre after acre and leaving behind them drifting sand. They are re-establishing that today by growing cover crops of cow peas. They are doing the same in Illinois and all over the continent—re-establishing the conditions that were in the soil when they were laid down by Nature, by the growing of cover crops. Take a cover crop, then, and let us grow it. We will take a cover crop of barnyard manure to restore the humus. Go out and buy barnyard manure, buy what you can, but we find that we can not get enough of it to restore the soil. And if you could get it, we find that it costs from $300 to $700 for a ten-acre orchard to get barnyard manure to the extent of ten cubic feet to the tree. Now, if we all demanded that, and did not use the cover crop, we would not be able to pay for it, even if we could get it. But we find that by growing the Canadian, the Russian blue, the cow pea of the South, and all the other several varieties of cover crops, we can not only get it at a nominal cost, but we restore the aeration and ventilation of the soil and give to the soil the organic acids that are necessary to make available the mineral fertilizers that are there for our use.

Take the cow pea or the red clover, they ramify the soil from every direction. I have followed a cow pea three feet into the soil. Why do you plow? That the air may get into the soil. Did you ever have a plow that went three feet into the soil? Did you ever have a plow that would lay up humus three feet deep, or with which, if sufficient air gets into it, will make humus? The cover crop will do it for you. Your cultivator will move through it easily; your horses will not sweat as much; they will grow fat on half the feed they would require when plowing and cultivating in a dead soil that closes up as soon as you go over it; but with the humus brought about by the cover crop your soil will be so friable and so free and so light that your cultivator will move easily and you will get a dust mulch to hold the water down that you can not get in a soil devoid of humus.

Humus is Life.

This humus, let me again say with all the force that I can, is the life of the soil, and without it all life is gone and you can not live with the soil that has lost its humus. Have you ever seen a man plowing a field when it was wet? He says, "I have got to do this, because tomorrow I have got another field to plow.' What was he doing? Making adobe bricks! He could make them quicker than any Mexican that ever puddled them with his feet. He made his soil dead, and it will take him years to restore the evil that he did in that one hour. The bacteria died

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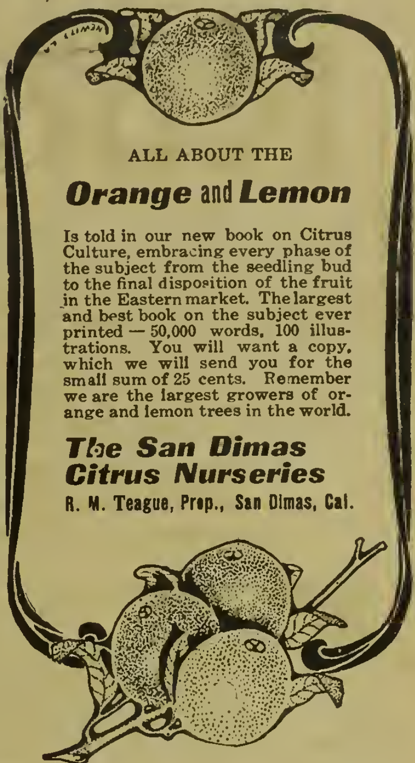
FOR FARM LINES



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in the hardened soil, because it could not get air, and the soil became dead; and if you could take a crusher or if you could take a miner's mill and pulverize all that soil, at a million dollars cost on a great big acreage, you might reach it in a little shorter time than otherwise you would, but it would take a long time to get it, nevertheless. Therefore, remember that you can not plow a soil when it is wet. Remember that you must use the humus. Remember that you can get that humus cheaply through the cover crop. It will cost you about $35 to put a cover crop on ten acres. The root system ramifies the whole soil.

I will read you in a minute the two experiments which I made by analyzing these plants in the laboratory, to show you how much mineral fertilizer was got out of ten acres of soil and how much nitrogen. The cover crop is to get first the nitrogen. There are three million—am I right?—pounds of free nitrogen at your command from every acre of your orchard field. By the growth of the cover crop the little bacteria in the soil will go through the hair root and you will soon see tubercules growing. The little bacteria are taking in the nitrogen and giving a portion of it to the plant in exchange for starch, and if you analyze that you will find an enormous amount of nitrogen has been gotten from the atmosphere for nothing.

Cheapest Way to Get it.

What do you pay for nitrogen? $60 for nitrate of soda, with only 16 to 18 per cent available—in the ton 320 pounds of nitrate of soda for $60—three cents a pound. But I can prove through the laboratory that I got 2000 pounds of nitrogen from the atmosphere for the $35 that I expended and put into the cover crop. In growing a cover crop you are growing it to get the nitrogen, so that the mineral already in the soil may be available. Therefore, do not feed your soil with nitrates before the planting of the cover crop; do not feed nitrates; feed them phosphates, feed them potashes, and they will grow better and gather more nitrogen for your use.

There are 40,000 pounds of potash and 7000 or 8000 pounds of phosphorus available to the acre and about thirty-nine per cent. of the phosphoric acid. Yet, nevertheless, you have no right to exhaust that store. It is to do for all time, and more of that inert material will become available by your using somewhat of the commercial fertilizer that will cost you from $20 to $35 per ton. You will get more nitrogen. Your crop, because of the prodigality of your soil, will be better, your bank account will be greater, your wife's smiles will be brighter, your children will be clothed better, the conditions surrounding your home will be immensely improved, you can send your children to the best schools in the land and give them the opportunities that others get, if you will rightly operate the soil that you have got in your power to operate.

Yes, I say that you can become rich on ten acres of soil in California. I say you can! I have seen it done. I have seen a man in fifteen years worth $75,000 with a start of just $400 after the payment of his land, planting his orchard, growing it, buying others with the profit and being worth today $75,000 and off his orchard getting $15,000 net income this year.
But he was an ideal farmer
everything that the soil requ
he became rich.

"Some Figures."

Let me just now, in clo
you about these analyses.
eight varieties of cover cro
ple of years ago to endeavo
out which was the better.
that I got from one of these
68,350 pounds of green ma
the acre for the vines and
pounds for the root system;
another, 68,000 for the vine a
the same for the root, and
ning the same, from about
68,000 and 70,000 pounds.
of some of these varieties I
pounds of available phospho
to the acre—measurably a
more fully available than in
state in the mineral matter
soil—and of potash, 317
which, after the decaying of
er crop when it was plowed
would become more readily a
than before; and of nitroge
pounds. And so with a
phosphoric acid, 91 pounds
241 pounds; nitrogen 284
Of the Vicia sativa, 131 pou
phosphoric acid; 364 pounds
ash, and 244 pounds of nitro
the acre. That is, 1300 pou
phosphoric acid for ten acres,
are our units, as it were, an
pounds of potash, and 2440 po
nitrogen. Now, these are dem
tions of our own. Our chemis
not have been perfect, but
compared them with works o
der and King and Hilgard an
ers, and I don't think we ar
far off——in fact, I know we a
very far off, if at all.

Concluded next week.

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A concern of standing, and
one, twenty-five years in the
—the Callenox Sprayer Co., o
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kinds of spraying apparatus
trade, and spraying material
San Jose scale do not like ve
are offering the real Lenox
Sprayer, particularly adapted
on small fruit, low trees, the
hop yard, shrubbery, strawber
potatoes, tomatoes, cabbage
poultry house, and upon the st
in the stable. An importa
about this sprayer is, it does
quire every few minutes to st
pump air—or to swear. It c
be used by a lady, as the wor
easy and so simplified; you fi
appratus, and it is ready to w
til empty. The regular mark
of the machine is about $5.0
though a barrel or power pu
owned on the place, a knapsack
er is handy many times in
many places where a power pu
not be used. The company, ow
being a little overstocked—ov
factured—offer them at a gr
price, which makes the inv
well worth the while. Particu
the present sacrifice in pric
though the season is a bit earl
a good investment in order to
in time for spraying seaso
having a few trees, a cow an
en house should have one of
sprayers on the place. See th
vertisement on last page of th

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of his thoroughbred poultry
stock and remarks: "I am well
isfied with results of the C
ad. No complaint at all"—M.
sett, Hanford.

Dullness is essential to mere
piness.

lifornia Horticulturally

'AR AGAINST THE CODLING MOTH.

; season when the most effec- e work against this worst of · orchard pests can be done is lose upon us and it behooves us ould grow apples or pears to ı mind that the early work is it. The first moths to appear ›se which have wintered over pupa form. These, while us enough, are not nearly so us as those which appear later one of this early brood is and killed, it puts a most ef- quietus on any future moths h she might be the ancestor. ever, she escapes she starts a econd brood and these give us , until by the end of the sea- y exist in enormous quanti- l there is no hope for clean So it is to the interest of the ist to get rid of all he can of l moths, and he may rest as- that he has at least very reduced the number of ll broods and saved many late apples, by even one g, but in saving apples, orms eternal vigilance and are the price to be paid, eral applications of the reme- hether Paris green or other ıis, will be needed.

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Ianford Sentinel says a good or scale on apricots, prunes, a solution of one pound of soda in seven gallons of wa- ted and applied cold by the a common spray pump, does ork most effectively. It is repared and applied. Now is e to spray.

Reissling grapes appear es- subject to Bordeaux mix- jury, while the American va- seem more resistant to weath- itions and to the injurious ef- the fungicide than most ın varieties. For the tender praying with one per cent x mixture is recommended. ves and fruits of the apple l to be subject to similar in-

JLPHUR MATTER AFFECTS 'HE TREE PLANTING.

owing the effect of govern- interference with trade, the men state that the recent agi- igainst the use of sulphur in fruit has given a setback to ıting of drying fruit, and that, he demand for peach stock n good, there has been a falling off in the demand for g the past planting season, ly as regards the drying va- the demand being almost for shipping and canning va- On the other hand, there ı an active demand for prune eavier than for years past. s been aided, too, by the good hich prunes have commanded the past season.

FRUIT PROSPECTS.

not always safe to play the ı prophet, yet with strong in- s, we may sometimes reach ble probabilities, so for the season the probabilities all a good crop of fresh fruits northern counties. There ı little frost, and no killing uring the winter, but it has ıtinually cool and there have been no hot days to start the sap prematurely in flow. As a result, all fruit trees are backward in blooming this season, which gives assurance that they will not be in bloom at the time of probable late frosts or in full bloom during the heavy March rains. So we may hope to escape killing by frosts and the washing out of the pollen by the late rains. Most deciduous trees bore lightly last season, so we may hope that, having had their season of rest, they will make up for it with heavy crops this year. Reports from the different fruit sections are to the effect that all trees are now loaded with plump and promising fruit buds, so that all things being favorable, we may count on a heavy crop of fresh fruits.

PREPARING SOIL FOR MELONS.

Commenting on preparation of soil for melons, the Imperial Standard says:

With the growth of the cantaloupe industry in the valley not enough is being said about the necessity there is for getting the land in perfect condition, selecting the seed and caring for the plants properly.

Up to the present time, throughout the valley, fully one-half of the effort put forth to produce cataloupes has been thrown away.

Each year the acreage harvested is but about one-half of that planted, simply because each year there are enough beginners in the growing of cantaloupes who fail to keep up the percentage.

Even at Brawley, with the experience the growers there have had, it is expected that the producing fields will this year not much exceed fifty per cent of the acreage planted, because there are so many new people going into the business, and the new people almost invariably think all they have to do is to stick seed in the ground.

This is nothing against the cantaloupe industry. It is simply one of the many illustration that in this world one must pay for success with industry and close and intelligent application to the task in hand.

Because other communities have illustrated the need there is for extreme care and diligence in growing this crop, the farmers about Imperial and other sections of the valley who are going into the business for the first time this year should exert unusual precautions:

First. By getting their land in the very pink of condition.

Second. By making sure that their seed is of the highest grade and not gathered up promiscuously from some other district where the farmers use their culls.

Third. By caring for their plants as they would for a treasure of priceless value.

Fourth. By studying most carefully the condition of the melons when the harvest time comes, and picking them at just the proper time.

YOU CAN IRRIGATE YOUR UP-LANDS WITH AN I. H. C. GASOLINE ENGINE

NO need to go up stream and construct miles and miles of ditch to get the water high enough.

Place one of the powerful I. H. C. gasoline engines on the stream where it is nearest your land. There are large engines for irrigating on a big scale and smaller engines for small farms.

These engines are the best means for raising and utilizing the underflow; also for raising water from lakes, ponds, and wells, and also running streams.

They will raise all the water you need and deliver it just where you want it—in the ditch or in laterals.

The first cost of one of these I. H. C. gasoline engines is, in almost every case, less than the building of a long ditch to enable the water to flow naturally to the land.

And the cost of running is always less than the cost of keeping the ditch clean of drifting sand, silt, weeds and fast growing bushes.

In many cases, an I. H. C. engine enables you to reach the knolls and other high places which you cannot reach at all by ditch without expensive flumes that are "tumble-down" and must be repaired every spring.

The engines are made both vertical and horizontal and in many sizes from 1 to 20-horse power. They are easily controlled and run dependably. The irrigator does not need to give them constant attention.

Only an occasional return to them, to replenish the fuel and water supply, is all that is necessary. One man can handle the head of water in the field and at the same time attend to the engine.

International local agents will furnish catalogs and give particulars on all sizes of irrigating engines. Or write the nearest branch office.

WESTERN GENERAL AGENCIES: Denver, Colo., Portland, Ore., Salt Lake City, Utah, Helena, Mont., Spokane, Wash., San Francisco, Cal.

INTERNATIONAL HARVESTER COMPANY OF AMERICA, Chicago, U. S. A
(Incorporated)

Seeds, Plants, Fruit Trees

Most complete stock in the West, embracing everything new of decided merit in both vegetable and flower seeds. Headquarters for Eucalyptus and other tree seeds. Full line of fruit trees and ornamental stock.

Write for Our 1908 Catalogue

Poultry and Stock Foods

Sole agents for International Stock and Poultry Foods, Kow Kure, Coulson's Egg Food, Darling's Beef Scraps, Chamberlain's Chick Food.

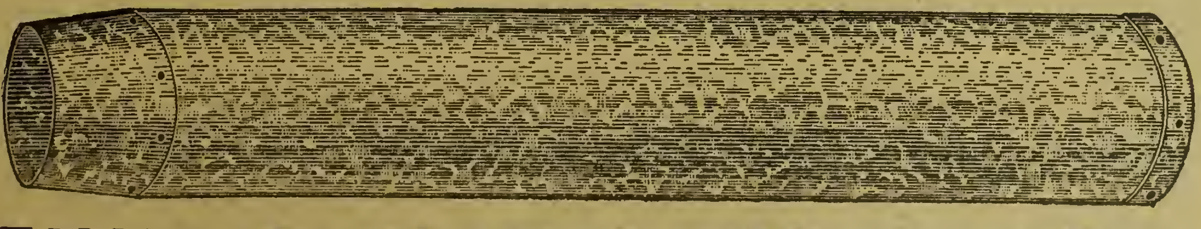
Germain Seed Company
326-330 So. Main St., Los Angeles, Cal.

TENTS

Fumigating and Lemon Curing Tents our Specialties

Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants
300 slightly used tents, all sizes, for sale cheap.

Mellus Bros. & Co
Phones—Home, F 4871; S. S., Main 8500
250 East Fifth St., Los Angeles, Cal.



TALLERDAY SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **Irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties.** We make **Riveted Water Pipe** in lengths of **ten feet** from **single sheets.** Let us **prove** to you that we make **Pipe** and **Tanks right.** WRITE FOR CATALOGUE.

TALLERDAY MANUFACTURING CO.
636-7 Pacific Electric Building Los Angeles, Cal.

Strawberry Plants

25c Per Dozen Postpaid

or 100 for $1.50, by Express

Seedless Blackberry

Too much cannot be said of this wonderful berry. It is the handsomest, earliest ripening, juciest and most delicious Blackberry in the world. Procurable only from us.
Delivered free to all parts of the country. **50c per Plant, $5 per 12**

BLACKBERRY PLANTS

MAMMOTH BLACKBERRY—the largest in the world—15c each, $1 per 10, $7 per 100. Two-year-old tips, 25c each; $2 per 10.
CRANDALL'S EARLY BLACKBERRY—excellent, prolific, ever-bearing—10c each, 75c per 10, $4 per 100.
KITTATINY BLACKBERRY—ripe as soon as black—10c each, 75c per 10, $4 per 100.
HIMALAYA GIANT BLACKBERRY—the best late variety—25c each, $2 per 10.

LOGANBERRY PLANTS
15c each, 75c per 10, $5 per 100. Two-year-old tips, 20c each; $1.75 per 10.

GOOSEBERY PLANTS
Downing Gooseberry—20c each, $1.75 per 10, $12 per 100.
Smith's Imported Gooseberry—20c each, $1.75 per 10.
White Smith Gooseberry—20c each, $1.75 per 10.

DEWBERRY PLANTS
10c each, 75c per 10, $4 per 100.

PHENOMENAL BERRY
20c per plant, $2 per 12, $10 per 100.

RASPBERRY PLANTS
Golden Queen Raspberry—15c each, $1 per 10, $7 per 100.
Cuthbert Raspberry—10c each, 75c per 10, $4 per 100.
Gregg Raspberry—10c each, 75c per 10, $4 per 100.

CURRANT PLANTS
Cherry Currant—20c each, $1.75 per 10.
White Grape Currant—20c each, $1.75 per 10.
Black Naples Currant—20c each, $1.75 per 10.

Seedless Blackberry and Strawberry plants are delivered free—purchaser pays transportation on all other berry plants.
Write for our wholesale prices for Vegetable Seeds in lots of 5 pounds or more.

Chas. C. Navlet & Co. Largest Berry Dealers on the Coast
SAN JOSE, CALIFORNIA

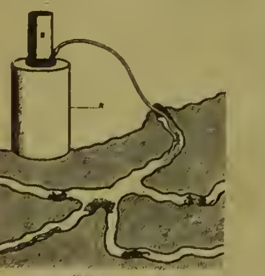
TREE TANGLEFOOT

A Sticky Preparation Applied Directly to the Bark of the Trees

Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm Wherever the Gypsy or Brown-tail Moths, Tussock Moths fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials.

THE O. & W. THUM COMPANY
Manufacturers of Tanglefoot Fly Paper
Grand Rapids, Michigan



Kill the Pocket Gopher, Moles and Squirrels

The Peerless Destroyer generates gas from carbide (a cheap substance, which can be bought anywhere,) instantly forces the gas into their holes at the rate of five feet per second, for hundreds of feet, making a wholesale killing of every live thing therein. They stop breathing when the gas overtakes them. No pumping, no trouble. The gas is harmless in the open air, but confined in their holes kills them by the dozen in a single operation. Not an experiment, but a sure thing. FULLY GUARANTEED. Perfectly safe, easy to operate, fully meets the demand for a wholesale destroyer of the pests. Will last for years. The cost is nothing for the work it will do. Full equipment, including sufficient carbide to clear any ordinary ten acres, ready for instant use, sent express prepaid on receipt of price, $5.00. Your money back if it fails to do the work. Write today.

D. Hawes, P. O. Box 307, Santa Cruz, Cal.

Crimson Winter Rhubarb and Berry Plants Our Specialty

LEMON, ORANGE AND GRAPE FRUIT as well as full line other fruits. 3,000 Valencia, choice trees, $60.00 per 100. Winter Rhubarb, pedigree plants, $1.50 per dozen, $6 per 100, $40 per 1000.

J. B Wagner
The Berry and Rhubarb Specialist
Pasadena, California

■ For Sale
20,000 Palms in seed beds
40,000 Walnut Trees (seedlings)
and other nursery stock. Must be sold within thirty days.
Los Angeles Olive Growers Association
Los Angeles, Cal.

SANDERS-ARNOTT DISC PLOW

All Sizes
for Orchard,
Field or
Engine
24 inch and
28 inch Discs
Agents Wanted
ARNOTT & COMPANY, Los Angeles, Cal.
Write for Catalog. 112-118 S. Los Angeles St.

Rustic Baskets Planted With Ferns
Just the Thing for Your Porch or Your Table
Two Large Baskets, $1.50, Express Prepaid
One Large and One Small Basket, $1.25 ex. prepaid
Three Small Baskets, $1.50, Express Prepaid
C. E. Lilley, Ben Lomand, Cal.

BLUE AND SUGAR GUMS

By the hundred or thousand in prime condition for setting on country roads, wood lots, etc. These are hardy, sun grown plants, grown in individual tins, and often shifted. Should make a perfect stand if properly handled. Price $4.50 per hundred. Packing 50 cents extra. $45 per thousand. Packing $3 extra.

BALLOU'S NURSERY
728 E. Orange Grove Ave., Pasadena, Cal.

The Vegetable Garde

THIS MONTH IN THE GARDEN.

WHILE it is presumed all the hardier vegtables, as peas, lettuce, etc., were planted last month, some of them, especially the two just named, should be planted again this month, so as to have a succession. The radish is another vegetable that matures quickly, and is only really good when grown fast so that it is crisp and tender. It is a good plan to plant a few every 15 or 20 days.

In planting peas as late as this month, keep in mind that the weather will be very much warmer by the time they mature, and to help keep the roots cool and moist, it is a good plan to make the furrows deeper than usual, but at first only cover the seed to the depth of a couple of inches. After they are five or six inches high hoe in the soil so that the furrows are a little more than level full. This rule will be a good one to follow with potatoes. Seeds of tomatoes, peppers and eggplant, may be sown now in the greenhouse or hotbed or sunny window. They can be transplanted into open ground the first or second week in April. Toward the latter part of the month you might try a few melons and cucumbers in open ground, but do not be surprised if you have to make a second planting later. Much will depend upon the season.

I have for several years used pieces of cheese cloth as a protection to early plantings of melons, cucumbers and string beans, and often secured a good stand when only failure would result without this protection. Make the cloth into squares that will be three-fourths of a yard each way. Take two pieces of wire about two feet long, each and bend them into a half circle, crossing one over the other and pushing each end into the ground firmly. Then spread the cloth over the wires and cover the edges with soil to hold it in place. The chief advantage in this form of protection is that it excludes insects and shelters from the cold, harsh wind.

It is labor lost to plant lima beans earlier than April in open ground, unless you have first started them nicely indoors in pots. By indoors, I mean the propagating house or hotbed. If the weather is unfavorable and they get badly chilled it is difficult to get them to start into vigorous growth again. It is often better to plant fresh seed, which, being put in at a late period, find better conditions for the growth. Keep the soil well cultivated.

It should be several weeks before any irrigation is used. The soil is full of moisture, if you will but retain it by good cultivation. Remember, irrigation lowers the temperature of the soil, and at this season you want to keep the soil warm by every device at your command if you would have your crops grow rapidly.

Some of the earlier varieties of sweet corn can be planted with safety the latter part of the month. If you plant only a small quantity do not make the mistake of planting it in one or two rows, unless the rows extend in the line of the prevailing winds. Otherwise, the wind blowing across the row will carry most of the pollen away and the result will be very few grains of corn to the ear. It is better to plant in a square, if but a small quantity is planted.—Q. A. L.

SHIPPING VEGETABLES

A prominent Louisana veg
shipper gives the following m
before the State Horticultural S
as most satisfactory in shipping
tables from that section:

Beets, turnips, parsley, sh
mustard and spinach packed for
ment should be placed in suga
rels and iced with from seven
to one hundred pounds of ice.
in this way they can be shipped
New Orleans to Chicago or
York with practically no loss.
tuce, endives and escarolle
also be shipped in sugar barrel
iced with about twenty-five pour
ice.

Cucumbers can be shipped in
rels or small crates, but if barre
used the same should have ve
tion and be lightly iced with
twenty-five pounds of ice. The
cucumbers of the season carry
when wrapped in brown paper
shipped in small crates.

Egg plants should be shippe
same as cucumbers, while
crates, hampers and boxes ma
used for tomatoes.

Ship green corn in sugar ba
well ventilated and well iced.

Muskmelons should be shipp
barrels or small crates; waterm
in bulk.

Ship snap beans in bushel and
bushel hampers, or in two-t
bushel and one-bushel boxes. Do
ice.

White celery should be shippe
barrels containing 20 to 25 bun
to a barrel and should be well i

Okra should be shipped the sam
beans and no ice used, except
packed in barrels, and it is best th
use whole blocks of ice, standing
cakes up in the middle of the b
and packing the okra around the

Potatoes may be shipped in
sacks or hampers. They are
easiest of all vegetables to ship
they do not rot so quickly as
vegetables.

When it is possible, vege
should be shipped by freight, pre
ably, of course, in refrigerator
Express rates are usually too high
leave much of a profit for the grow
after an allowance has been mad
shrinkage, loss and commi
charges.

It should be borne in mind th
well-packed package and one th
as attractive as it can be made,
always command a larger price
a poorly packed, unattractive p
age.

DISCRIMINATING.

Tessie—"I suppose you won't
ry until you find the one girl
million?"

Tom—"No; with a million."
change.

40 BULBS, 25 Cent
For in or out of doors growing Gloxinia, Begonia,
Scilla, Tuberoses, Jonquils, Daffodils, Oxalis,
Tulips, Hyacinths, Crocus, Japan Lily, Snowd
Narcissus, Allium, Chionodoxa, Paconia. This ma
cent collection of bulbs, and also as a premium a fine
tion of Souvenir Postal Cards of Beautiful Views,
tains, Lakes, Country Homes, Ocean and Surf Views o
American coast. Don't miss this grand offer FRE
for only 25c in silver or in 2c. stamps.
MAYFLOWER NURSERY, Medford, Ma

he Ornamental Garden

MONTH WITH ORNAMENTALS.

OE UP the weeds about the borders. They harbor and afford protection to the cut- s which will be a pest later. trees and vines of all kinds be planted soon. Also all kinds rubbery. Continue work with wn. Rake out the joint grass; ze the brown spots, and where are pulled from lawn and leave e spot, put in a pinch of seed. following seeds can be sown: s, Ageratum, Coxcomb, Bal- Zinnia, Snap Dragon and other er flowering plants. Pot bulbs oxinia, Gesneria, Tuberous Be- and fancy Caladiums.

n roses may be planted yet, but be at once.

s a good month in the garden. busy.

THE REAL TRUTH.

, let me tell you the real truth that Lawson pink story. I had ist who experimented on a car- . One day he brought me a of the blooms. I took them to Lawson. She thought them retty; so did I, so I secured all vere of them, perhaps a dozen a or so. I told the florist how pleased Mrs. Lawson was with them, and he named it the Mrs Thomas Lawson pink. One day he came to me and said that a man named Higginbotham from Chicago had offered $5000 for the pink. "What, $5000 for a pink? Is he bughouse on flowers or money?"

He explaned to me that next year there would be fully two hundred of the pinks in bloom and they would readily bring $2 apiece. Higginbotham raised the price to $25,000.

Then we took off our coats and got busy. When I got up from that sit down—we always take off our coats and sit down when a deal gets up to $20,000—I paid the florist $30,000 for the flower and agreed to spend $15,000 in the next six days advertising the fact that I had paid $30,000 for the pink. He was to have a third interest in the deal and I was to have two-thirds. In less than eight months he returned to me. In the meantime I had spent some $40,000 instead of $15,000 in advertising the pink, directly and indirectly. He handed me back my original capital, with $15,000, which was a fair percentage, as we figured it, in business, and I presented the famous pink back to him, and today it is probably the most successful flower of that or any other kind that man has ever commercialized.—Thomas W. Lawson in Agricultural Advertising.

GLADIOLUS.

Notwithstanding the wonderful development which has been brought about in the gladiolus its culture is extremely simple, its tastes being quite similar to those of the potato. A light, sandy loam is the best soil. The corms may be planted at any time. They flower the same season and may be dug and stored after drying or may be left in the ground. Cutting the flower spikes increases size of bulb, which requires four months to come to maturity. Gladioli are propagated by (1) natural division from the parent corm; (2) seed; (3) small corms growing at base of new corm.

The seed have produced flowers the second year in California. The small corms usually do the first year.

SPECIAL TOUR.

Among the advertisements which appear in this week's issue is a special Tour to Japan by the oldest touring firm in the country. Thos. Cook & Son have been operating these tours for 67 years and have a worldwide reputation, and thousands of tourists stand ready to testify to their ability to give more for the money than can possibly be had by the ordinary method of travel at a much greater cost. The program they offer gives a full story illustrating many of the scenes, and well worth the asking which is all that it will cost you.

KEEPING THE GRINDSTONE TRUE.

The average grindstone on the farm sees pretty tough times. The softer the stone, the harder usage it receives. Its lot is almost as hard as that of the "boy on the farm," who has to turn it by the hour. The grinding surface of the stone is more apt to be concave than it is to have an even face, or slightlly beveled surface.

The concave condition comes from grinding axes, scythes, machine knives, etc., with their edges lengthwise of the stone instead of across it. This can not be helped in grinding some tools. But when the stone does assume this shape, making it impossible to grind a chisel or any flat-edged tool decently, it is a good time to get a spade or two—spades are usually dull—and hold them on the stone until sharpened, when the irregularities in the surface of the stone will have disappeared.

A grindstone, by the way, should never be left exposed to the sun. The weight of the handle will always cause one portion of the stone to remain uppermost, and this, from exposure, will reach a different degree of hardness from the underside, so that after a while the stone will be ground out of a circle. If the stone has to stand in the open, a flat box can easily be obtained to serve as a cover.—G. E. M., in Prairie Farmer.

PILES CURED IN 6 TO 14 DAYS
PAZO OINTMENT is guaranteed to cure any case of Itching, Blind, Bleeding or Protruding Piles in 6 to 14 days or money refunded 50c

Placer Nurseries

Grapes
Muscat
Malaga
Thompson's Seedless
Verdell
Cornichon
Emperor
Blue Malvoise
Purple Damascus
Black Morocco
Black Ferrara
Tokay

Almonds
X L
Drake's Seedling
Nonpareil
Ne Plus Ultra

Cherries
Knight's Early Black
Early Chapman
Bing
Black Tartarian
Royal Ann
Black Oregon

Apricots
Royal
Moorepark
Blenheim

Bartlett Pears, Phillips Cling, Orange Cling, Muir, Lovell and Elberta
Peaches, Climax, Wickson and Kelsey Plums, and Hungarian Prune
THESE STANDARD MONEY MAKERS ARE GOING FAST

Note the
Fine
Assortment
We Offer

You never buy a cheap horse and expect to get a good one. Some fruit ranchers buy the cheapest tree they can get, but an orchardist—never. Our trees and vines are not the cheapest, but they are the best that **Care in Selection** and growing can produce. We propagate only from parent trees and vines that are the best specimens of their kind, and our stock will give you good service for a lifetime. That is what you want.

Place Your Order at Once

The Silva-Bergtholdt Co.
Newcastle, California

SEEDS That Grow Just Sow

Fine, new stock, Northern grown seeds. None better. Choice Alfalfa. Low price for best quality. Send 35c in stamps for trial order of 12 of our 5c-packages, your choice, postage paid.

Poultry Supplies and Incubators

Large stock of the very best goods of all kinds at the lowest prices. Come and see us, or mail your orders; you will be treated right. Send for free Catalogue.

West Coast Seed Co.

707 So. Spring St. Los Angeles, Cal.

Transplanters

"Bemis" "Sunshine"

The well known "Bemis" made according to our own specifications and named "Sunshine." Only one machine required to plant on level ground or on highest ridges. Write for full particulars to Department "A."

Newell Mathews Company

200 No. Los Angeles St. Los Angeles, Cal.

500,000 FEET OF WATER PIPE

All sizes, Galvanized and Black, slightly damaged.
Special Price While It Lasts. Phone or write.
ADAMS PIPE CO., 2025 Bay St., Los Angeles, Cal. Phones: A 1917 Broadway 1264

Cultivator Order Blank

——————1908

CULTIVATOR PUBLISHING CO.,
115½ No. Broadway
Los Angeles, Cal.

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NAME	P. O. ADDRESS	STATE

Are you an old or new subscriber? ——————

SIGNED——————

ADDRESS ——————

Bees and Their Ca

ADVICE TO BEEKEEPERS.

Beekeepers of the North Yakima district are not in accord with the suggestions of Professor Melander, of the State College, made to the horticulturists at the convention at Walla Walla. He told the fruitmen to spray, among other times, just at the opening of the blossom and before it had arrived at maturity. Beekeepers think it wrong advice. They believe that spraying at this time will do an injury to the blossom in istelf, and also by driving away the bees which cross fertilize. They also think it will be harmful to the bees, which will be killed in their work by the poison on the blossoms. They protested against it at a meeting held last week.

A paper was read to the convention by Jesse Thornton who said among other things, under the caption "The Marketing of Honey," the following:

The first thing is to have good honey. To secure that there must be good pasturage for the bees. The best honey is alfalfa honey, and white and sweet clover come a close second. The one-pound section is the most popular way to take the honey at the present time. It should be put up in neat packages, properly labeled, with a showy advertisement with the producer's name and the name of the apiary, also the producer's address on each section. The honey should then be graded honestly, the white, red and yellow separated and graded. Fancy honey should have all sections containing well filled combs, straight and firmly attached to all four sides, unsoiled by travel and stain or otherwise, and all cells sealed except the row next to the wood.

No. 1 should have all sections well filled, but might contain crooked or uneven combs, detached at the bottom or with but few cells unsealed and as free as possible from travel stain. The section should be scraped clean from propolis.

It is most necessary that producers deal honestly with the consumer in order to build up the markets. It is evident that good honey should bear a higher price. When ripened up by the bees it is predigested and is very wholesome.

The extracted honey should be ripe before it is extracted and each grade of honey should be extracted by itself so that the consumer can get the kind he wants and that there may be no mixed grades. Each dealer should have one, two and five and fifty-pound packages with a showy label giving the name of the honey, as to its kind, the name of the grower and of the apiary. These should be sealed so that they cannot be tampered with without breaking the seal. This is made necessary by the bad reputation extracted honey has had by being adulterated. It is a good idea to give away samples of honey so that people may know what they are buying and whether it is wholesome. The Federal Government is desirous that the bee industry be fostered and built up, hence it has printed several bulletins on the subject. Farmers' Bulletin No. 75 treats of production and care of extracted honey. No. 59 is on bee keeping and No. 55 on queen raising. These may be obtained free from the Department of Agriculture, entomology department.—Portland Oregonian.

POISON AND THE BEES

Will the codlin moth be ex
nated in this valley at the ex
of the bee industry; will the o
pest and the little honey mak
together? Is the question whi
agitating seriously many men
section of the State, says the
Walla Union. While men have
fighting with deadly poisons the
lin moth, the curse of the orch
the same men with the same p
have been killing bees by the
lions as they attempt to suck
nectar from the poisoned blos
upon the orchard trees. The
lem is becoming a serious one.

Bees have been kept in most o
orchards of the valley for
years, and with splendid results,
til the codlin moth became so tr
lesome that spraying was res
to generally. While spraying
ineffective in many cases so fa
the pest was concerned, the be
dustry suffered from the start,
was found that even though
tle of the poison reached the peta
the blossom, it proved a death-
ing agent to the innocent bee w
it sought nectar to carry to its h
for winter. It is estimated
from 40,000 to 60,000 bees form a
ony, and in some cases half the n
ber died before the steps were ta
to prevent further poisoning.
fact, it is almost impossible to k
bees from an orchard while it is
bloom, even though the hives be
moved several miles from it. Th
are thousands of colonies in this
ley that have suffered severely fr
the calamity.

The trouble has practic
brought about a change in the fe
ing of bees. Orchard blossoms h
been given way to the delicate
ple petals of the alfalfa fields,
the places which knew the bee
in years past will know th
more, perhaps, until a po
found that will kill moths and
bees, or until the moth shall h
disappeared entirely. While in f
er years bees abounded in all
small orchards, now they have
moved back toward Hudson B
where alfalfa fields cover a
part of the country, where no
chard trees have to be syrayed

The experience of this valley is
the experience of the Yakima
Wenatchee valleys, where spra
has wrought even greater havoc t
it has here. In Yakima, it has
held by many that bees could b
longer raised where trees
grown, and in consequence the
industry has followed the a
fields back and back as the or
encroached upon the older field

CLIPPING QUEENS.

Many who have only hunted
queens during the summer mo
believe clipping to be a seriou
when, in fact, it is the most p
work the apiarist has. At th
ping season there are, as a rul
few bees in the hive and the q
can be readily found by the mo
experienced operator. In clip
either a sharp pen knife or sc
may be used and it is best to c
only one side. Queens having the
wings clipped equally on both si
unless cut very short, are frequentl
able to fly after ridding themselv
eggs. Moreover, when it come
hunting up a hundred or more q
every spring to see whether they ar
clipped, it greatly lessens the task i
only one side is clipped.—Col
Rural.

ıeries and Replies

ns to be answered in this department should be received at this office ek before reply is expected. Write plainly on one side of the paper and ll name and address. Unsigned communications receive no attention.—

VETERINARY.

: pleased to announce to the r readers that we have se- ıe services of Dr. R. T. y, veterinarian, of Los An- ıo will conduct for a short least, the Veterinary De- in the Cultivator. We say ime, for the reason that Dr. y is taking it up more as iment, and if he finds him- with his pressing duties, he inue the services longer. this will prove to be the he is abundantly able to und of information, which f great value to the readers Cultivator who own stock.

l the attention to one fea- this service, however, and as always has been the cus- l replies in this department ays be accompanied by a fee but if the question is of nterest and may be an- ırough the columns of the Cul- hen it will be of sufficient the Cultivator family that be inserted without any We ask the readers to be in giving full symptoms of ble with the animal and will aid in forming an of the disease, how it has and such other questions as the doctor in giving an in- answer.

ıittlesey has been practicing ession in Los Angeles since l is now at the head of one most complete veterinary in this city. Having the rating room of any veteri- pital in the State with spec- s for handling both horses

* * *

Knee Cap.

a mare with a lump on her ee cap. Has been there for ıe, and was very pronounced secured her last July. The as then about the size of a but about a month ago I had trimmed and had to throw now it is twice as large as We have used two bot- dine, but cannot see that it good.—W. E. H., Thermal.

ıare has a "capped" knee; as attempted to protect the m continuous bruises by in- sack of fluid over the joint. ent: Thoroughly sterilize ı—corrosive sublimate and to 500—open the sack at the rosswise of leg, making an at least three-fourths of an g, inject inside of sack with over whole front of knee orbent cotton and bandage ress once daily; keep the a standing position until not walk her at all.

* * *

a driving mare which, driven at a fair rate of lows a great deal. That is, thes very fast, but makes no an you give me a cure?—H. sonville.

obably has the "heaves," but possible to be certain from scription. You had better your veterinarian in Watson- he is as good as any in the

Mange.

I have a pet goat on which there are sore spots which are continually getting larger. Seems to be a skin disease. The wool will pull off in great patches at times showing a new spot which is slightly scabby or scurvy. What is the trouble, and can I cure it?—Subscriber, Los Angeles, Cal.

The goat probably has mange or scab. Get a quart of one per cent solution of formaline and water. Thoroughly scrub the parts two or three times a week using a small brush. Clip the hair around sores and don't leave the hair wet with the medicine for the goat to lick.

* * *

Fleas on Dog.

How can I remove fleas from collie dog?—X., Dinuba.

Wash thoroughly with a solution of eucamphol and water, 1 to 200; sprinkle his bed with the same.

* * *

Polypus.

What is good to cure polypus in a cow's nose? Is there any cure?—Desert Farmer, El Centro.

The polypus may be a simple abcess containing pus, a tumor or actinomycosis. If the first, and it is where you can get at it, cut it open, making a free incision across the full width of the enlargement. If a tumor, you will have to call on an experienced veterinarian. If actinmacosis, it will need internal treatment of iodide of potash one pound, water sufficient to make a quart when dissolved. Give one-half ounce night and morning in a pint of water. My advise is to call upon a competent veterinarian to make a diagnosis for you. You have one in the newly appointed County Stock Inspector for Imperial county.

Keeping Sweet Potatoes.

Please tell me how to store and keep sweet potatoes?—O.

I have had perfect success in keeping sweet potatoes by storing them in perfectly dry sand in a barn on the ground floor. I made a bin on the floor by setting up a 12-inch board parallel with the foundation wall, and four feet from it and as long as required to hold what I wished to store. I placed dry sand on the bottom to the depth of about four inches and then began at one end and placed the potatoes in the bin as closely as I could pack them, being careful not to pack higher than winthin about three inches of the top of the bin. When all had been put in I poured dry sand over them until every space between the potatoes was filled, and kept adding sand until the whole bin was covered to the top of the board. Two or three weeks later a layer of sacks was put over the top of the sand. When opened up in the spring not a single decayed potato was found.

But I dug them very carefully in the fall and handled them as carefully as eggs, allowing them to lie in the sun to get thoroughly dry, a couple of days, covering over at night with sacks. Only perfect specimens were packed away, as I never use for seed anything but the best and most perfect type of its kind. If this inquirer had in mind keeping sweet potatoes

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on a larger scale for sale in the late winter or early spring market, I think he will be disappointed in results.

The consensus of opinion among growers is that the loss from shrinkage and decay is almost always greater than any advance in price. Better sell the crop as early as it can be marketed and allow the other fellow to take the risk. There are many different methods of keeping sweet potatoes until spring. I knew a very successful grower in El Cajon valley, who dug and dried the potatoes with care and packed them in the sweat boxes used for sweating raisins, and piled the boxes one on top of the other in a shed adjoining his barn, where they kept without loss worth mentioning until spring. One of the essentials is to keep them dry, and another is to handle carefullly.—Q. A. L.

Onion Sets.

Please inform me through the columns of your paper when is the best time to sow onion seed for the purpose of growing sets to be set out next winter.—W. F. R., Lenore.

March and April are the best months to sow onion seeds for sets. But I would caution any one without experience to attempt it on a large scale. The best sets are grown upon lands that do not require irrigation, and sets grown upon such soil keep much better than where irrigation is necessary. It must not be ininferred that when grown without irrigation I mean without plenty of moisture, but upon soils in which the water is near enough to the surface to rise by capillary attraction and keep the ground damp enough for the needs of the crop without irrigation. If the inquirer has very mellow loam or sandy soil he might begin on a moderate scale. It takes about 300 pounds of sets to plant an acre or about five pounds of seed.—Q. A. L.

Planting Corn.

When is the best time to plant field corn and what is best seed to plant? E. L. S., Morgan Hill.

It is impossible to answer the first question definitely, because locality and season controls. For instance, near Los Angeles last year, cold rains prevented planting till middle of April. Ordinarily, planting begins in March. If your section is liable to late frosts, you can learn by inquiry, and plant accordingly. In any case, the ground must be well warmed up before seed will start.

As to variety, your neighbors have probably found the most desirable kinds, but Yellow Dent, Wisconsin White Dent, Stanford White Flint, King Phillip and others are good.

Write seed houses advertising in Cultivator and ask for seed catalogues, which will give you full description of varieties.

Grapes and Peaches.

What is most profitable table grape for this section? Also for quick return. Are peaches superior to grapes? If so, what kind? Will Nebraska-grown trees do well here?—M. H. S., Morgan Hill.

See Mr. Mills' answers to queries in former Cultivators. Also see article on page 188, issue of Feb. 20. However, a fund of information of your own local conditions and adaptability of soil and climate, may be had of your local nurserymen and fruit growers. If your conditions favor grapes, they would yield quickest returns. Nebraska-grown trees, if true to name and free from disease and pests, will be all right, but coast-grown trees are usually preferred.

Grafting Grapes.

We have some Sultanas growing amongst our acreage of Muscats (four years old). Would you recommend budding or replanting? When is the best time to bud and what is the procedure?—J. C. W.

Graft the vines two inches below the surface, using a two bud scion. In two years they will be about as large as your other vines, while if you dig them out and replace, they never will catch up.

Replanting Apple Trees.

I have two acres and one-half of apple trees. I want to move them to another place. The trees were planted two years this month. How much must I cut back from the top and how much from the roots?—U. C., Greenfield.

Cut the tops back to about four branches, leaving them eighteen inches long. Cut the roots so that they will go into a hole that is three feet deep and wide. Now is the time to do it.

Army Worms.

As I remember, Mr. Mills in his articles last year, said that the great damage done in citrus orchards by army worms may be largely prevented by plowing under of the green manure crops in the orchard, before breeding and feeding time comes. How late can I leave my crop before plowing, that is, when is earliest hatch of the worms?—M. O. R., Pomona.

Plow your orchards now. It is the best time, considering all things, for it gives time in which to get the land in good shape before the rains stop.

Mare in Heat.

The following with some other queries were sent to Dr. W. J. Oliver before he died, but which he was unable to answer and later sent to Mrs. Sherman, which accounts for long delay in answer.

I have a mare 12 years old that is in heat practically all the time, sweats greatly upon the slightest exertion either on road or in field, and at night cold perspiration stands out all over her, especially on the hind quarters, which are as wet as if a pail of cold water had been thrown on her, while the ears, nose, legs, and in fact, entire body gets icy cold. She is a blooded animal, well cared for, fed regularly, has good appetite and seems to be in perfect health generally, although at times she bloats a very little, has some gas and intestines rumble. Reluctantly, and without results, I have had her served five times at intervals of eighteen days, which seemed to only augment her heat, and between each service she would pace to and fro in her yard almost constantly and cause no end of trouble when at work. Kindly advise fully in this case and oblige.—"A. B. S."

Take this mare to a good horse doctor and have her treated for internal inflammation. She should not be bred as it only aggarvates the trouble. She is no doubt suffering from some form of irritation, and it is not safe to drive her no matter how gentle she has always been.

Peanuts.

Will you kindly tell me the proper time to put out or plant peanuts in this section of the country? Do the blossoms require covering with dirt, and should they be left to bury themselves and the plant cultivated as other vegetables are? Also tell me whether they require much irrigation. —Harry Burton, Chino.

For instructions in planting peanuts see Mr. Lobingier's article on page 75 of number of January 16. It is not necessary to cover blossoms, but the soil must be light and friable.

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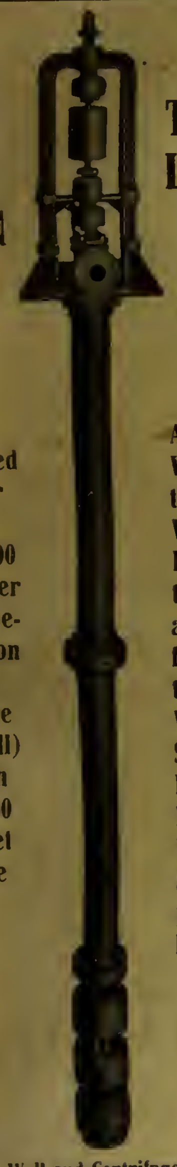

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Gum Disease.

I have a number of orange trees in my grove affected by gum disease and the trouble appears to be spreading. Can you advise me what remedy to apply to cure the disease? Also the cause of the disease and method to prevent its spread.—Subscriber.

See Cultivator of Jan. 9, page 51, for article by Ralph E. Smith on gum disease, also short item by S. A. Pease on page 108 of Jan. 30. Those articles treat it much more fully than can be given in these columns. It is not infectious but is constitutional and requires soil treatment. It is also best to remove diseased tissue, apply wax. Lighten and get air into your soil.

Seedless Blackberries.

I once saw advertised in California Cultivator some seedless blackberries, but the paper got lost. Will you please tell me where I can get them. Would like to plant them this spring.—Mrs. Jacob Sturm, Porterville.

Chas. C. Navlet Co., Inc., of First and San Fernando Sts., San Jose, sell the seedless blackberry.

Fertilizer.

As one of your subscribers I write you for information on fertilization of soils for our ground of sandy loam nature. We seem to have a fine soil for general truck purposes, but there seems to be something needed. I am now interested in potatoes but would like, if possible, to either through your office or the State department a booklet, if there is such a general information for different crops, a general fertilizer, etc. It seems to me we should be able to make this fertilizing material instead of paying some dealer a high price for very little fertilizer and remainder of something else. I would also like to know how and when and how much to apply, etc. If you can give this information or direct me where I can receive it.—L. B. D., Burbank.

The Department of Agriculture, Washington, D. C., will send you on application, bulletins on fertilizers. There are also a number of good books on manures. Also a most excellent book to give a better understanding of soils and needs, is Hilgard's "Soils" by McMillan Co., N. Y. "Soil" by King; "Fertilizers" by Voorhees; "Chemistry in Some of Its Relations to Agriculture" and others are good along the same line.

The making of your own fertilizers, except by the compost or manure pile or by green manuring, will probably not be satisfactory. You may, however, apply the various elements separately. But bear in mind, that the three principal elements which are needed are a staple in the market and the price varies but little. Of course, if you get a complete fertilizer, so-called, but largely "filler" you get bilked. But there is little opportunity for that these days, and we believe most of our fertilizer manufacturers are delivering honest goods. The "when, how much," etc., depends upon your crop.

Fertilizer in Corral.

When a corral is rented for stock on a piece of land, to whom does the manure belong? Is it to the owner of the land or owner of the stock? What is the law and costume in California?—S. D. H.

In the corral or thrown up in piles, it is personal property and belongs to owner of stock. Once scattered, it is "real estate" and belongs to the land.

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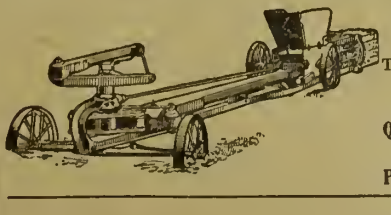

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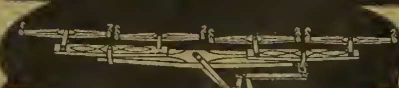

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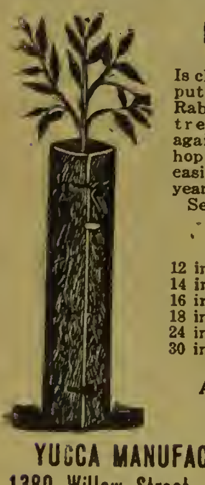

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General Agriculture

THE POSTMASTER-GENERAL ON PARCELS POST.

THE present general parcel post rate is 16 cents a pound for people in our own country, the limit of weight being 4 pounds; while the rate from the United States to 29 foreign countries is 12 cents a pound and the limit of weight to 24 of these countries is 11 pounds. In order to have the rate consistent and equitable, the department has recommended that on packages for delivery in this country, it shall be the same as those sent abroad, namely, 12 cents a pound, a reduction of 4 cents, and the weight limit 11 pounds, an increase of 7 pounds; for one ounce, 1 cent; over one ounce and not exceeding 3 ounces, 2 cents; over three and not exceeding four ounces, 3 cents; over four and not exceeding five ounces, 4 cents; over five and not exceeding six ounces, 5 cents; over six and not exceeding eight ounces, 6 cents; over eight and not exceeding twelve ounces, 9 cents; over twelve ounces and not exceeding one pound, 12 cents.

In my annual report I also recommended a local parcel post on rural routes, at the rate of 5 cents for the first pound and 2 cents for each additional pound or fractional part of an additional pound up to 11 pounds; for two ounces or less, 1 cent; over two and up to four ounces, 2 cents; over four and up to eight ounces, 3 cents; over eight and up to twelve ounces, 4 cents, over twelve ounces and up to one pound, 5 cents. The object of this recommendation is to enable the local merchants to hold and increase their trade on the rural routes, to give to the farmers and patrons of these routes the accommodations which the machinery of the rural service, utilized to a greater extent than at present, will permit.

It is the intention to frame a bill in such form that parcels carried at this special rate will be limited to those received upon a rural route or at the distributing postoffice thereof, 'and delivered by rural carriers upon the same rural route or another emanating from the said distributing postoffice. According to the department's proposition a mail order house shipping goods by freight will not be permitted to distribute them by the special parcel post on rural routes.

It is possible to offer this low rate for a special local rural parcel post for the reason that, there being no railroad transportation, its operation would involve no additional expense. The necessary machinery is already in existence. There are 38,215 rural routes in operation, supplying about fifteen millions of people, and even at the rate proposed it would require only three packages of the maximum weight to be taken out each trip over these routes in order to wipe out the deficit of the postal service. The increased cancellations would raise the salary of postmasters of the fourth class and the establishment of this service would finally be instrumental in making the rural routes self-sustaining. The rural service will, in all probability, cost the government this year $34,000,000, an increase of $10,000,000 over last year, and yet the benefits derived therefrom cannot be measured in dollars and cents.. A local parcel post on these rural routes would be of incalculable benefit to the patrons of the routes as well as to the local merchants. It would tend in time to bring about the improvement of the roads througout the country, thus adding to the valuation of the farms with increased accomodations afforded by the service and better roads.

The statement has been made that this special rate on rural routes would be the entering wedge for similar rates on the general parcel post. That is impossible, for in the case of the general parcel post transportation by railroads is a factor—about $45,000,000 were paid last year for mail transportation and $6,000,000 for postal cars—which adds very largely to the cost of the service, while there would be no railroad charges or other additional expenses connected with the local rural parcel post, as the rural delivery is already thoroughly equipped and in operation.

In some quarters it has been claimed that the large mail order houses would, under the proposed law, utilize the special parcel post on rural routes through agents. Mention has already been made of the intention to recommend a provision which will prevent such use of the routes. It should also be borne in mind that even in the absence of such a prohibition any systematic attempt upon the part of a mail order house to thus deliver its wares would necessitate the employment of many thousands of local representatives. Their catalogues show pretty plainly that they attribute a large measure of their success to their remarkable low selling expense, and that the absence of any sort of agents is the principal feature of their argument in accounting for the supposedly low prices of their goods.

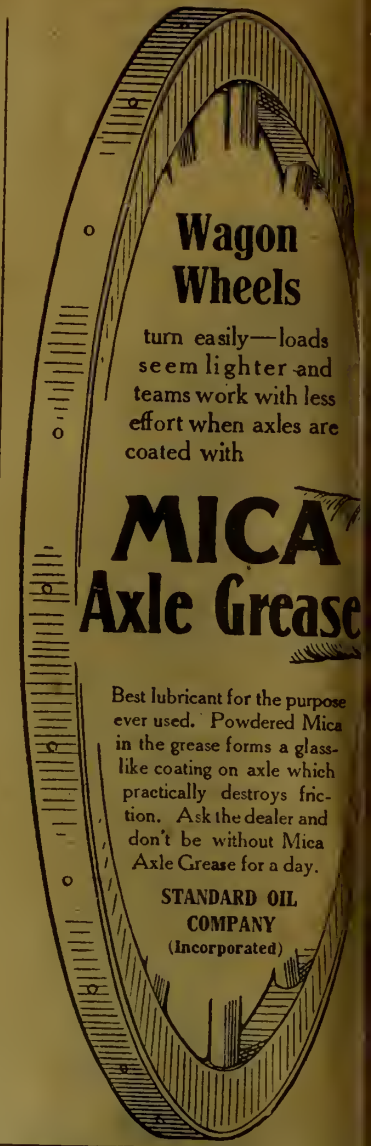
THE PARCELS-POST STRUGGLE.

Here is what President Roosevelt had to say with regard to the proposal to establish a parcels post service in the United States:

I commend to the Congress the consideration of the Postmaster-General's recommendation for an extension of the parcels post, especially on the rural routes. There are now 38,215 rural routes serving nearly 15,000,000 people who do not have the advantages of the inhabitants of cities in obtaining their supplies. These recommendations have been drawn up to benefit the farmer and the country storekeeper. Otherwise I should not favor them, for I believe it is a good policy for our government to do everything possible to aid the small town and the coutry district. It is desirable that the country merchant be not crushed out.

In spite of the kindly sentiments expressed in the foregoing paragraph a tremendous agitation has been developed against this modest effort to make life more pleasant for the farming population. Offices are being maintained in the principal cities of the country to combat parcels post. It will be remembered, however, that an equally fierce agitation was maintained against free rural delivery; but in the end the farmers won. They can win parcels post, too, if they will only make up their minds to have it.

All sorts of wild and unreasonable statements are being printed, and the mails flooded with them, inflaming against the Postmaster-General's idea.



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)f the stock arguments is that is post does not pay in Europe, as a matter of fact, it pays somely, and the people like it so they could not possiblly be in- l to change it. In the British ds the postoffice pays a hand- sum every year in net, profits l goes into the Imperial treas- to help pay the expenses of the and navy.

to the argument that parcels will injure the small merchant, is assuredly nothing in it, be- in Europe this individual es great use of parcels post. He only sends goods to local custom- but he receives considerable tities by the same means. Val- goods such as silks, jewelry, s, etc., are often sent by the par- post from the wholesaler to the ler.

ck of all this agitation are the ess companies, who know the els post is a great success in Eu- and they have succeeded in tening the country merchant till s in a condition to join hands his old enemies, the express panies.

e farmers can have parcels post ley will all write their congress- to the effect that they want par- post, and want it soon. For the en folks, the arrangement pro- d by the President would be a lerful convenience; for by using telephone they can order goods town and have them delivered le door on the same day.

t your husband or brother to e a letter to your Representative Vashington, insisting on a parcels at an early date. Don't delay. eanings in Bee Culture.

ESTIGATION OF OUR NEEDS.

)llowing the efforts made by the fornia Promotion Committee and River and Drainage Association of fornia, through the California gressional delegation at Washing- a committee of United States neers, consisting of Colonel Dan- W. Lockwood, Lieutenant-Colonel th S. Leach and Captain A. H. er of the U. S. Board of Engin- for Rivers and Harbors, visited fornia during January for the pose of making a personal investi- on of conditions relating to the or of San Pedro, the harbor of ka and the San Joaquin river l Stockton to its mouth, and the amento river from the mouth of Feather river to Suisin Bay.

lis investigation was in pursuance n act of congress calling for infor- ion regarding certain projects ad- ted by the local United States en- ers, Lieutenant Colonel John lle, Major C. H. McKinstry, Cap- Thomas H. Jackson and Captain s A. Fries. The committee was authorized to make other investi- ons than that above enumerated.

t Stockton a meeting was held re the River Improvement and inage Association of California ented a voluminous document wing the needs of all the rivers of State. This document was filed the engineers, and then the needs he San Joaquin river were shown statistics and oral addresses from nbers of the Chamber of Com- ce. Following this meeting the mittee of engineers was taken n the San Joaquin river to its ith and then up the Sacramento r to the mouth of the Feather river, making personal investigations of conditions.

At Sacramento a public meeting was held and the needs of the Sacramento river fully explained.

Two projects are before the United States engineers relating to the two rivers, these being the deepening of th channel of the San Joaquin to give a fifteen-foot channel from the city of Stockton to the bay and the other the deepening of the channel of the Sacramento to fifteen feet from the city of Sacramento to the bay, and the deepening of the Sacramento river to nine feet from Sacramento to the mouth of the Feather river.

The investigation of the harbor of Eureka was held at the California Building in San Francisco, where representatives from Eureka assembled to give data and statistics.

This visit of the engineers means much for California, for it has given prominent members of the board a personal knowledge of conditions which will, undoubtedly, be of benefit to the State when future projects come up.

BEET SUGAR CROP OF EUROPE.

As the result of its latest investigation, under date of December 14, the International Statistical Sugar Association estimates the 1907-08 crop of beet sugar in the principal countries of Europe at 6,189,880 tons of 2240 pounds, against 6,446,306 tons produced last season. A decrease in production is shown for all the countries mentioned save Austria-Hungary and Italy. In the latter the output for the current season is estimated to be 21.8 per cent larger than that of last season and in Austria-Hungary 6.5 per cent larger.

COLORADO STATE FAIR.

Colorado is to have an industrial exposition worthy the productions of the State and for the exhibition of its resources. The first annual exposition will be held September 7 to 12, 1908, under the management of the Colorado Industrial Exposition Association at Overland Park, Denver, which is being converted into one of the most extensive and complete fair grounds in the country at an expenditure of $150,000.

Colorado stands at the head of all States in the production of sugar beets. Her factories last year bought the product from 50,000 acres; Michigan came next with 40,000; Nebraska, 20,000 and Utah, 15,000 acres. The average price paid was about $5 per ton.

A contented mind is the greatest blessing a man can enjoy in this world; and if in the present life his happiness arises from the subduing of his desires, it will arise in the next from the gratification of them.—Addison.

A COOK BOOK THAT REALLY HELPS.

"The Enterprising Housekeeper" is the name of a cook book that contains besides its 200 tested recipes, hints, helps and valuable information for the household.

If there is a woman reader of this paper who, as yet, hasn't obtained a copy of "The Enterprising Housekeeper" she should send for one at once. A simple request to The Enterprise Manufacuring Co., 2440 Dauphin St., Phila., Pa., will bring a copy by return mail. They have agreed to send a

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This land—an old Spanish grant recently known as the CONE RANCH—is conceded to be one of the most productive SPOTS in THE GREAT SACRAMENTO VALLEY—and is now for the first time being sold in 5 to 20-acre Tracts

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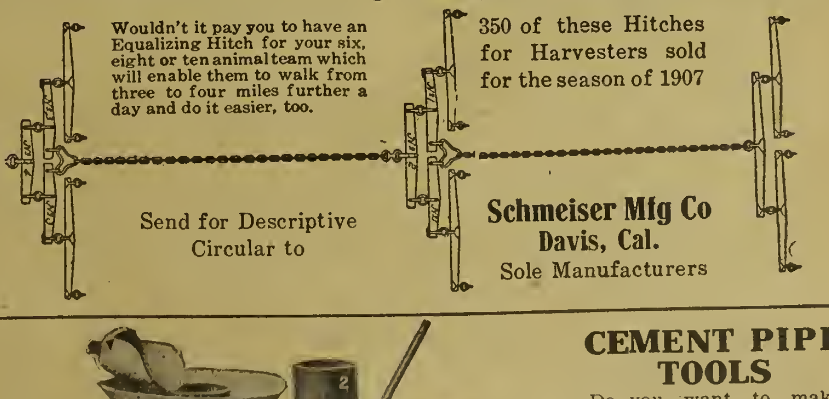

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Sole Manufacturers

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California Cultivator

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733 Merchants Exchange Building

Thursday, March 5, 1908

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ARBOR DAY.

It would be a blessing to California if Arbor Day were universally observed. It would add untold thousands to the wealth of the State if millions of timber trees were planted each year, cultivated and grown into forests for commercial use in the future. Our hillsides should be our timber domains, preserving the lands from washes and our foothill towns from disaster by floods.

There is more than sentiment in this Arbor day feature inaugurated by J. Sterling Morton. There is a pecuniary profit to be realized from it. Our forests have been cut away for industrial development until we are on the verge of bankruptcy so far as the future supply of timber is concerned. The high price of lumber is not wholly due to the greed of the lumberman. It comes in part from the poverty of our timber domain. Our national foresters have been warning us that we are approaching a most serious condition with our timber supply, but up to recent years we have given no heed to their appeals. We probably would not be interested enough to wake up to our situation at all were we not forced to do so by the high prices of lumber and the prospect of total loss of our timber in a very few years.

It is high time we are getting busy. Every State in this Union ought to be planting millions of trees and taking care of them when planted.

There is some appearance of awakened interest, however, as manifested in the congresses held the past five years. The Irrigation Congress, recently held at Sacramento, was largely attended, and representatives of the government at Washington, and from the timber states, were earnest in their efforts to secure co-operation between the different agencies of the country for systematic tree planting and forest protection. To this meeting Secretary Wilson wrote as follows: "The nation is awakening to the necessity of planting trees and making the most of those that are mature. Our institutions of learning are taking up the study of forestry. State societies are inquiring. The experiment stations of the several States and Territories are making research. The Department of Agriculture is training a bureau of forest experts in woodcraft to serve the Nation, the States, companies and individuals along forestry lines."

This is encouraging information, but the work should not stop with the efforts of the government. Our farmers, especially those in California, ought to plant for fuel, and for the protection of their lands. Cities and towns ought to plant ornamental trees for beauty and comfort.

Civic societies everywhere should take this occasion, the festival of March 7, to teach by precept and example, the beneficial influences on the character of the community which emanate from well cared for trees and lawns. It is to be hoped a very general observance of Arbor Day will be given by Californians this year, and every recuring year, until our waste places are made bowers of beauty and usefulness.

THE GRANGE.

Co-operation is the generic principle of the farmer organization known as the Grange. Upon this doctrine of mutual help rests the future prosperity of the agricultural classes. The wise farmer has learned long ago that he can not isolate himself and do anything, he must work for a common interest, in a common cause, or fight his battle alone, which is a hard proposition to overcome. If, however, he contributes his influence to an association of his co-laborers, his chances of success are in the proportion of the strength of the organization to which he belongs.

The great need of the farmer today is organization. The Cultivator has said this time and again, and has endeavored to point out the inestimable advantage of a thorough and systematic co-operation along all lines of agricultural labor. If any argument were needed in support of our contention, it may be found in the California Fruit Growers' Exchange, an organization that for years has met with marked success along the line of co-operative endeavor. In this connection, as an exponent of this doctrine of farmers' co-operation, we quote from Farm and Ranch, an agricultural publication which is earnestly advocating farmers' organization along the lines of the National Grange. We quote:

> "Organize as students of the economic, civil and commercial systems of our day in order that we may learn to play our part with credit to ourselves and honor to the country. This is no time for hesitation and doubt. He who hesitates is lost and will carry others down with him. The home and the family, the farm and the country are at stake in the present great moral and industrial warfare against the entrenched powers of speculation, graft, greed, selfishness, commercial piracy and the octopus that feeds on the life-blood of women and children as well as the flesh of men. It will require all the forces of education and co-operation, of justice, equity, and morality to win the fight for a fair living to those who dig in nature's storehouse of wealth—the soil."

CLIMATE AS AN INDUSTRIAL ASSET.

An Eastern civil engineer who spent considerable time in California, looking into the mechanical possibilities of a very large industrial proposition, has given out some interesting data bearing on the future of this State in a manufacturing way. His conclusions are based on climate as an asset to industrial expansion.

He takes the report of the last census as the basis of his conclusions, together with his study of conditions as he found them while in California. The gross product per operative is said to represent value as follows: In the United States at large, $1900; in Connecticut, as a fair example of an eastern State, $1997; in California, $3328. The great preponderance in favor of California this engineer attributes to climate. Estimates were based on coal as fuel in both cases, but California now finds oil cheaper than minous coal at eastern prices.

It may not be entirely fair to attribute a the difference in cost of manufacturing t mate, because California furnishes such an of raw material used in structural work, t is a little difficult to strike a just mean be what we furnish of our own resources, and climate does for us. Suffice it to say, our climate enables the workingman to do more given day's work than he can do in the weather of the East or the Middle West. I respect climate is to be regarded as a f Then there is another feature to the propos heat, power, light and ventilation cost mo the East than here, because of climatic i larities. They become fixed charges in indu operations and must be so considered in pla any manufacturing business. Not only do and power effect machinery, but they effect greater the men behind the machine.

There is no State in the Union where the laborer suffers so little from extremes of and cold as in California, for here we have n tremes of temperature. Human energy is debilitated by biting cold nor suffocating Winter and summer are so nearly akin in mate conditions the workingman toils on, day to day, in a condition of physical vigor w renders him capable for work all the year ro

These considerations have produced an u pected inquiry among eastern manufacturers see in California, a future serious compet not heretofore taken into consideration.

ABOUT SMALL INVESTMENTS.

We have been deeply interested in ing one of Charles G. Davis' (late Comptrole the Currency) articles in the Saturday Pos "Why the Small Investor Loses." He takes position, and we believe wisely, that in the majority of cases moderate sums of money not be invested safely so as to bring in n than a reasonable interest return and should be invested in response to specious newsp advertisements." Again, small investors are the wrong side of the market, being buyers seller having all the advantage of inside kn edge and future possibilities for success of proposition he is selling. "In the majority proffers of mining and plantation stock thro newspapers, says Mr. Davis, the man who b is paying a profit fixed by the seller for his benefit.

> "Large capital makes a preliminary inves tion at its own expense. The small inv either acts upon no investigation, or upon a vestigation paid for by the seller. Large ca negotiates for a price with the true value mind. The small investor generally buys wi out knowledge of the real value.
>
> "What chance has the small investor? knows nothing as to whether the promotors men of past business success. Many men are known business failures in their own com nities are often long-distance millionaires. O they are broken plungers whose brief success widely chronicled, but whose gradual busines lapse has naturally not been heralded."

Too often investors are inveigled into bu stocks by the names of the promotors of proposition. This is a mistake. Names do count for much in a selling scheme, for, as a eral thing, promotors are not over careful ab the representations they make, and it is often ficult to understand just what they do intend mean by what they say. If one has no means finding out the exact situation for himself. he best let all mining and other get-rich-qu schmes alone. This advice is particularly dir ed to the farmer, whose large profits in the p few years have given him a good deal of surpl money to invest, a thing the sharp seller of bon and stocks has learned and which he is seeki to take advantage of.

A Washington farmer has just been granted divorce, because his wife went through his poc ets and took all his money. He had taken it o of the bank for fear the bank might break. Wel his wife broke him all right. Moral: The ban in this instance was safer than the wife.

J. V. H., Ripon, Cal.:

"The Cultivator gets at the meat of things good shape."

Agricultural Notes of the Pacific Coast

Northern California

loverdale Citrus Fair closed with dit to itself.

arysville has had a rainfall of ut 11 inches to date.

evees of the Sacramento are be- reinforced at Willows.

airymen at Willows expect the ly establishment of a new cream-

rane flies are doing great damage pasture lands in the Sacramento ley.

utter county fruit growers are nting extensive acreage to vines l trees.

ne field of 240 acres of barley r Colusa is now ripe and nearly dy to cut.

nderson is the center of the farm- and fruit raising industries of asta county.

xtensive improvements are being de in Reclamation District No. near Woodland.

ontractors are figuring on the ecifications for the new buildings the State Farm.

t is reported that San Fransisco ll use gopher snakes in its cam- ign against rats.

Progressive Grange at Healdsburg out with strong resolutions favor- the parcels post.

t is predicted that the asparagus lustry along the Suisuin district, in lano county, is only in its infancy.

Dairymen at Oroville are fighting e ordinance recently passed by the y trustees on the ground that it is just.

The poultry men of Cotati recently et and organized in order to secure ore money for eggs and pay less r feed.

The State Farm at Davis has re- ived a large number of vine cut- ngs from Europe. All will be afted on resistant stock.

Land owners of the Central Irri- tion District near Colusa recently ld a meeting, at which the suits ainst the Irrigation were discussed.

Yuba City farmers have suits ainst them aggregating $12,900, ought by the trustees of District . 70, for delinquent assessments.

An orange grower at Colusa hav- g his trees fumigated for scale und that the fumigators killed not ly the scale but two dozen poul- y roosting in the trees.

Northern California Bee Keepers' sociation recently held its annual nvention at Pioneer Hall, Davis. e Madary Bee Keepers' Supply use made extensive exhibits.

The secretary of the new Pacific ast Hop Growers' Union says that e success of the organization, up the present, is such as to assure e complete organization of the as- ciation.

The Redding land office has re- ived orders from the Department Washington to withdraw from en- y two townships to be incorporated the Shasta National Forest. This nbraces about 46,000 acres.

Vacaville fruit growers have rmed an association for the hand- ng of their fruit crops. The di- ctors for the first year are: T. H. uckingham, president; H. C. Blake, cretary; C. J. Uhl, treasurer; J. N. ogers, R. E. Burton, L. J. Harbison.

Central California

Lindsay has shipped 840 cars of oranges to date.

Watsonville's total rainfall to date is 14.56 inches.

Rainfall at Hollister totals 15.7 inches for the season.

Two or three feet of snow lies on the level about Millwood.

Sixty-five thousand deciduous trees will be planted this season near Farmersville.

Alfalfa hay at Hanford is reported very scarce and selling at a price higher than usual.

Clovis expects to establish an extensive drainage system, work on which is just beginning.

Lindsay orange packing house will be enlarged before the next year's crop of oranges is produced.

The San Jose Morning Times makes an appeal for more scientific methods of farming and fruit growing.

White grubs which are the larva of June bugs are said to be doing much damage in lawns at Watsonville.

A. T. Sweet, soil expert, declares that the possibilities of the Turlock-Modesto districts are almost limitless.

The Handford Sentinel reports help for doing the work in the vineyards and orchards in that section as very scarce.

Articles of incorporation of the Tule River Citrus Association have been filed. The principal place of business is Porterville.

Tulare county has had a bounty on squirrel tails which expired January 31st, and its bounty on coyotes expired March 1st.

State Forester Lull claims that the agitation over the destruction of large trees in the Big Tree Basin came about from ignorance of the situation.

A meeting was held at Laton February 20th, the object of which was to take steps for the eradication of the Texas fever tick. State Veterinary Keane was present.

Lindsay orange growers have sent representatives of her associations to Southern California, where they will gather information as to methods of packing oranges and lemons.

The board selected by the President to investigate as to the use of sulphur and other preservatives in food products are as follows: Dr. Ira Bemsen, president of Johns Hopkins University; Dr. Russel H. Chittenden, Yale University; Dr. John H. Long, Northwestern University; Dr. Alonzo E. Taylor, University of California; Dr. C. A. Burton, College of Physicians and Surgeons, New York.

Articles of incorporation of the Dried Fruit Association of California were filed recently. The association is not formed for profit and the membership fee is fixed at $75. The objects are stated to be to eliminate abuses in connection with the wholesale packing and shipping of dried fruits, to protect members from unjust and unlawful exactions. The directors are Albert E. Castle, D. J. Guggenheim, J. K. Armsby, H. E. Losse, Abraham Rosenburg, C. W. Griffin, Alexander Goldstein, Charles G. Bonner and F. G. Baker.

Southern California

Coachella Valley has asparagus ready to ship.

Orange county shipped 1,692 cars of celery in January.

Orange county is planting large quantities of grain.

La Habra Vegetable Association has 500 acres of cabbage growing.

Riverside men are planting a ten-acre orange grove near Calexico.

There is being planted about 1,000 acres of cantaloupes in Imperial Valley.

A George Junior republic is to be established on a farm at San Fernando.

Texas cotton growers will plant 1,000 acres of cotton this season in Imperial Valley.

It is reported that the great Laguna dam above Yuma will be completed in eighteen months.

The Fullerton-Placentia Nut Growers' Association received 14 cents per pound for their walnuts.

Los Angeles will plant 100,000 trees in its parks and along the streets on Arbor Day next Saturday.

Over one-third of the crop of oranges has already been forwarded from Southern California.

Brawley is soon to have an experimental farm which will give tests to various new seeds and plants.

Redlands has an orange packer, a lady, who recently packed a box of 126s in exactly two minutes.

Orange County Celery Growers' Association paid its members $105,000 as the proceeds of its January shipment.

Imperial farmers are busy sowing grain for feed for the large quantity of stock shipped there for fattening.

Melon associations of Imperial valley are talking of organizing a central body to handle the melons of all associations.

Two nurseries are about to be started at Hemet, one of which will devote its energies to roses, the other to fruit trees.

Hungarian grouse have been distributed in the San Bernardino forest reserve. They will be protected by law for several years.

The A.C.G. Fruit Exchange at Azusa and Glendora have shipped ten carloads of oranges to London, Liverpool, Glasgow, and Hamburg.

Cabbage shipping has begun with only $5.00 per ton, but the growers are hoping that it will increase to $25.00 before the season is over.

Rainfall in Imperial this season has been much larger than at any time since records have been kept. Up to February 4th there was a total of 1.16 inches.

This year's output of celery in Southern California will be less than 1700 cars. If conditions had been normal and no loss, there would have been between 3,000 and 4,000 cars.

It is rumored that congress will make appropriation to reimburse the Southern Pacific for its work in restraining the Colorado River and saving the Imperial Valley land.

Orange county cabbage raisers are indignant that the Japs have invaded the cabbage-growing sections and produced cabbages in such quantity that the price has been lowered from $25 to $5 per ton.

The Coast

Tacoma, Washington, has a large surplus of hay.

Utah bee keepers meet in annual session April 6th.

Utah is the first State to form an arid farming association.

Pullman has a plant for the manufacture of denatured alcohol.

Baker City, Oregon, proposes to be the wool center of the Northwest.

Portland potato market is flat and 50 cents buys finest quality of spuds.

Tacoma, Washington, is shipping great quantities of flour to the Orient.

Texas cattle men meet in anual session at San Antonio March 18th and 20th.

Wilson Creek, Washington, farmers are asking for bids on 1,000,000 grain sacks.

Klackamas expects to have a $20,000 cannery established there in the near future.

Sunnyside, Washington, hopes to have an experiment farm established near that town.

Residents of the "Cherokee Strip" in Washington are now promised a large canning factory.

Walla Walla, Washington, horse breeders held a horse show on the last day of February.

Yakima Valley sheep are pronounced by the State Veterinarian to be in excellent condition.

Two cheese factories at Tillamook, Oregon, produced over $100,000 worth of cheese this season.

One hundred farmers at Garfield, Washington, have decided to build a co-operative cannery.

Fruit growers of Pullman, Washington, are endeavoring to reorganize the Fruit Growers' Association.

Dairy inspectors near Seattle, Washington, are finding bad conditions prevailing in dairy management.

One farmer in Salt River valley, Arizona, has sold over 3600 pounds of alfalfa seed this year.

Washington fruit growers are preparing or smudging and frost protection of the blossoming orchards.

Woodlawn Grange, located at Portland, Oregon, has secured first place among the granges of that State.

A large demand is made for deciduous trees, especially apples for planting, in the Lewiston-Idaho section.

The Big Horn irrigation project near Cheyenne, Wyoming, has just opened for settlement 245,000 acres of land.

Stock breeders at Pomeroy, Washington, have organized an auxiliary of the Washington Live Stock Association.

Fruit growers at Cashmere, Washington, have organized a co-operative fruit company to handle their own fruit.

The Deseret Farmer hopes the name of "Dry Farming Congress" will be changed to "Arid Farming Congress."

Spokane, Washington, Pomona Grange has large attendance at its meetings. It is now working for parcels post.

The Farmers' Union of Colton, Washington, have passed a resolution unanimously by which they resolved to cut out absolutely all doing of politics with that organization.

PER 2 BUSHEL SACK **$1.90** **PER 2 BUSHEL SACK**

Buy the World's Famous Egg Food No. 4

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IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

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Eggs for Hatching

From Carefully selected purebred stock of

White Minorcas **White Leghorns**
Buff Orpingtons **Aylesbury Ducks**

For full particulars and prices on eggs and incubator chicks apply to

Coulson Poultry & Stock Food Co.
Petaluma, Cal.

Beef Scraps **Raw Bone**

GUARANTEED ANALYSIS:
Protein 65%
Fat 8%
Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps No fertilizer ingredients in these Beef Scraps.

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Phosphates 45%
Made of Clean Beef Bones, surplus fat removed. Cleanest Raw Bone on the Market.

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FERN PARK POULTRY RANCH

EGGS FOR HATCHING

All Eggs are from good, strong vigorous stock.

WYATT & WOLLITZ, Proprietors
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Single Comb Buff Orpingtons
White Rocks and
Indian Runner Ducks

Orpington and Rocks $2 per setting; $6 per 100.
Duck Eggs $1.50 per 12.
Write your wants. Correspondence carefully answered.

Box 298. **WYATT & WOLLITZ, Corona, Cal.**

Profit in the Poultry Yar

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

LINE BREEDING.

WE HAVE been asked for a practical talk on line breeding and how far it can be carried without injury to the flock.

Line breeding in our opinion (and we speak after ten years' experience) can be followed indefinitely without injury to your flock. In fact, we believe with proper selection and care with the blood lines that the size, vigor and health of the flock will not only be maintained but built up.

We find that many do not understand the difference between line breeding and inbreeding.

We all know that thoroughbred poultry, and even live stock, was inbred before a variety or family was produced. Inbreeding can be practiced in a flock of fowls without injury if done with care. We have known many people that would not use a cockerel from a pen of birds, because he was related, never stopping to think that if you have twelve females in a pen that only one is directly related to the cockerel, and if a trap nest is used and a record kept of chicks you can take out the mother of this bird. I wonder how many have ever figured out how many combinations we can make with a pen of twelve females and one male and not inbreed close enough to be harmful. Our advice is always the same when we talk with those breeding thoroughbred poultry. If you are breeding a certain strain and want new blood, get of some one that is breeding the same strain. If you buy a pen or eggs from a breeder and need a cockerel to mate with your birds buy of the same party. Do not introduce an out-cross and expect good results. The first year you may undo all you or some one else has done for years, by judicious line breeding.

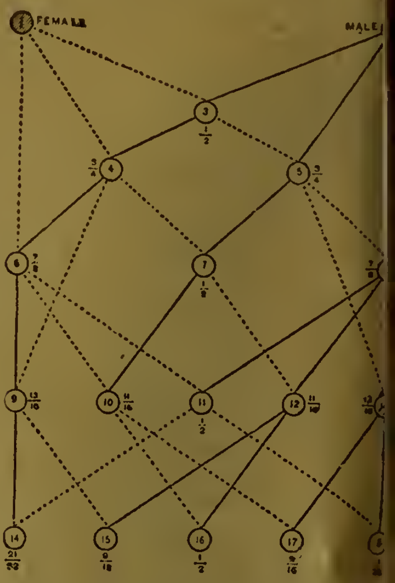
I knew a flock of bantams to be inbred for years, yet this flock is strong and vigorous, and in spite of the fact that they have been inbred, many of them each year are over weight.

We know of another flock of line bred White Leghorns, where no new blood has been introduced for over 15 years, and still another, where the owner wants to add vigor to his flock, selects eggs from hens that he wishes to raise cockerels for next season's breeders. He sends these eggs to another State, has them hatched and raised under different climatic conditions, and feed. Then when they are fully matured has them returned to him. He selected the ones that suited him best and mated them right back into his flock with good results.

We tried this once for several years on a flock of Indian games, and bred father to daughter and son to mother without loss of vigor, yet we eliminated some disagreeable features that had bothered us for a long time. In fact, we never had what we considered proper color that would reproduce itself to a marked degree, until we did inbreed.

After we had established a strain approaching our ideal, we carefully line bred, being very careful not to out-cross.

We produce herewith Mr. Felch's breeding chart and its explanatio



Female No. 1 mated with male No. produced group No. 3, which is one-ha the blood of sire and dam.

Females from group No. 3 mated bac to their sire No. 2, have produced grou No. 5, which is three-fourths of the bloc of the sire, No. 2, and one-fourth th blood of the dam, No. 1.

A male from group No. 3, mated bac to his own dam, No. 1, produced grou No. 4, which is three-fourths of t blood of the dam, No. 1, and one-fourt the blood of the sire, No. 2.

Again we select a cockerel from gro No. 5 and a pullet from group 4, or vi versa, which will produce group 7, whic is mathematically half the blood of ea of the original pair, No. 1 and No. This is the second step towards produ ing a new strain.

Females from No. 5 mated back to t original male, No. 2, produced group that are seven-eights the blood of No. and a cockerel from No. 4, mated b to the original dam, No. 1, produ group No. 6, that is seven-eights blood of the original dam, and only o eighth the blood of the original sire.

Again we select a male from No. 8 females from No. 6 and for a third produce chicks (in group No. 11) that half the blood of the original pair. T is the third step, and the ninth mat in securing complete breeding of our n strain. In all this we have not broke a line of sires, for every one has co from a group in which the preponderan of blood was that of the original s Nos. 2, 8, 13 and 18 are virtually t blood of No. 2.

We have reached a point where would establish a male line whose blo is virtually that of our original dam, a we now select from No. 6 a male whi we mate with a female from No. 4 produce group 9, which is thirteen-s teenths the blood of the original dam N 1 and three-sixteenths the blood of original sire.

Again we select a male from No. 9 a a female of the new strain No. 1 a produce group 14, which becomes 21- of the blood of the original dam, t preserving her strain of blood.

A male from No. 13, which is thirte sixteenths the blood of the original s No. 2, mated to females from No. which are five-sixteenths the blood of t original sire, No. 2, we have three d which is nine-sixteenths the blood said sire.

While in No. 16 we have the n strain and in No. 18 the strain of o original sire, No. 2, gives us group tinct strains, and by and by with systematic use we can go on bree for all time to come. Remember each dotted line is a female sele and each solid line the male selecti

AROUND THE YARDS.

Keep the breeders in a g healthy condition.

* * *

Never breed from a bird that had a severe case of roup.

* * *

The comb is a good indication the health of your flock.

* * *

Provide good, clean nests for your birds, unless you do they will lay n the ground, which will encour e the egg-eating habit.

* * *

Chicken Pox.

My chickens have a bright black spot on their combs and faces which seems to be spreading in some cases as large as a small pea. They are healthy; very red combs, and are laying; it has started in several

White Leghorns

The Kind That Pays

breeding birds I each year select r of my handsomest, earliest de- pullets and trap nest them dur- · entire first laying year. The ıson from these I select only ving satisfactory laying records. ·eeding pens are only hens of ·orth in their second and third nd no bird that has ever shown of disease. Each pen mated ·ns to one handsome cock. I be- e is not in California a hand- better lot of birds and few as n furnish eggs for hatching se birds at $1.50 for 15, $7.50 per per 1000. Let me book your v.

ıdence solicited.

S. E. Gregg

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sbury Ducks

rs at Crystal Palace and ading shows in England.
t the State Fair, San Jose and Oakland, 1906.
tate Fair and San Jose, 1907.
for sale and Eggs in season.

icent G. Huntley
Petaluma, California

eeder of Buff and Black Orpingtons and Barred Plymouth Rocks.

SAN GABRIEL EGG RANCH

White Leghorns

rred P. Rocks

White Leghorns at the Poultry Association show, Jan. 6-12, 1908. seconds; 4 thirds; 1 fourth; 1 fifth. ciation cup for highest scoring on ghorn cockerel. Eggs for hatch- .50 per 13; $5 per 100. Prize win- $2 per 13. The hens in our breed- are all selected two-year-old hens, to lay and win.

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ll peppers for chickens, shipped ldress on receipt of price $1.50

. Utt, Tustin, Cal.

Minorcas

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hat Lay and Win"

s at Los Angeles, ts, 1, 2, 4, 5; Cock- 4, 5: Hens, 1, 2, 3, 5; 2. 3, 4, 5 Pens, 1, 2; ghest scoring Minor- show. Stock and le. Catalogue free.

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onwealth Strain leads them all! Show er equalled on the Pacific Coast. Prices lowest, quality considered. Stock and ale. Hundreds to select from.

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rizes San Jose '06, and State Fair '07
ee 1sts and special, San Jose, '07.
s, three 2nds and $50 Cup best display Petaluma '07.
or free '08 Catalogue and price list.

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e, Typical Birds. Stock and Eggs For Sale.

W. A. SEYMOUR
udry Ave. Los Angeles Cal.

different pens. I would be much obliged if you could tell me what to do and the cause. We much appreciate the Cultivator, especially the poultry items.—Fred Pope, Orange.

Your chickens have chicken pox. Clean up your pens, whitewash your houses and runs. For relief, anoint the afflicted parts well with carbolated vaseline.

For a complete description and treatment see Cultivator of September 19, page 280.

* * *

Trim the Spurs.

Will you please tell me what caused some of my chickens to have large sores upon their bodies resembling somewhat a laceration, but that could not be possible as my chickens are in well fenced lots, debarring dogs and coyotes. I cleansed the sores and applied healing salves, and the chickens eat well until a very short time before they die. From the time I discovered the sores until the chicken died was about ten days.—M. F. C., Santa Ana.

We think the trouble is caused by the spurs on male bird; we know of nothing else that could cause the trouble. If your male has spurs, cut them off and see if this don't stop trouble. We have known some fine birds to be ruined by neglecting to trim rooster's spurs.

* * *

Liver Trouble.

Seeing that you give advice on diseased chickens, I hope that you can help me with my chickens. Their trouble is the bowels begin to move very loose, and the discharge is between a yellow and green. Then they began to droop and will not eat for a long time before they die.—H. W., Artesia.

Your birds have liver trouble. We would give a complete change of diet. As you don't say what you are feeding, it is hard to recommend a diet for them. All we can do is to advise a complete change.

* * *

Who Can Beat it?

Thinking the readers of the chicken department in the "Cultivator" would be interested in a "Rhode Island Red" laying record. I give the following: I have a pen of seven Rhode Island Reds, six pullets and one hen. Pullets are nine months old, and they have laid seven eggs one day and six the next, for every day since Dec. 10th, and the end not in sight. This, I think, is very good for a new beginner in the chicken business.—A. T. Kenyon, Charter Oak.

Who can beat this? Mr. Kenyon's record is a good one, as many birds don't lay so regular through December and January. Can any one equal this?

* * *

Softshells.

Can you tell me any remedy for a hen that lays soft shelled eggs every day? She is supplied with shells and grit, has a large run, is fed on wheat, skimmed milk, sweet, and sometimes a mash of cornmeal mixed with milk and a little salt. Please answer through the Cultivator.—A Subscriber, Chula Vista.

Generally, when a hen lays soft shelled eggs they are too fat. You are feeding a fattening diet. Cut out cornmeal and milk and feed plenty of lime, oyster shell and grit. If you have a litter in which to feed grain and make the hens work for what they get will reduce the fat and no doubt will remove the trouble.

* * *

Feed for Young Turkeys.

What is best feed for young turkeys?—I.

For first ten days feed hard boiled eggs chopped fine, shell included, mixed with light bread softened with water, (or better sweet milk;) this should be squeezed dry before mixing with egg. After they are about ten days old gradually add a little

Feed the Chicks and Kill the Gophers

West Coast Chick Feed

A full, rightly balanced ration for the little ones, to be fed dry. All pure feed, no filler, no waste. The biggest seller because the best made. Keeps them growing and healthy. For sale by many dealers; if not by yours send direct to us.

Bille's Gopher Poison

is most attractive to gophers, squirrels, etc., but sure death. Endorsed by Agricultural Colleges and Experiment Stations. Has had the greatest success for years in the Middle West, and also here in California last season. Circular with many testimonials and Affidavit of 201 killed in one day. If your dealer hasn't it, send $2.50 for two bottles, (not less than two) express prepaid by us. Money refunded if not as represented—so printed on the bottle.

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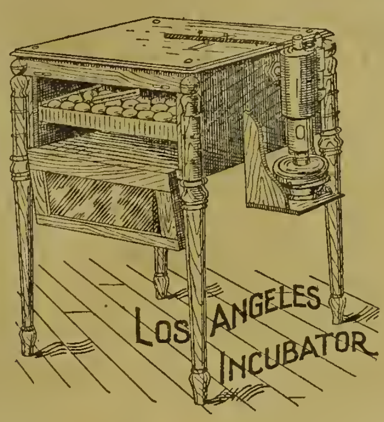

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OPAL INCUBATOR OIL
5 GAL. $1.50
10 GAL. 2.90

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Henry Albers Co., 534 So. Main, Los Angeles

5,000 MEN OUT OF WORK

Can feed a few hens on the scraps from the table and have eggs for the family every day in the year—but

Little Chicks should be fed on **Excelsior Chick Food**

prepared from clean, sound grains, seeds, beef scraps and charcoal in proportions to make a well balanced ration and produce strong, healthy chicks and keep them continually growing. For sale by all dealers and grocers. Take no other.

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S. C. Black Orpington Cockerel
2 Prizes, Los Angeles, 1907

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Eggs from imported prize winning

S. C. Black and Buff Orpingtons

S. C. White Leghorns

From $1.50 to $15 per setting. Two good pens of White Minorcas for sale.
Write for descriptive Circular.

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Arthur Letts, Prop. E. B. Coleman, Mgr.

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CROLEY'S ***Meat Scraps Meat Scraps***

No Hair **$3.00 per Sack** *No Hoofs*

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Croley's Green Bone, $2.50 per Sack

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and brooders are made from the very best materials obtainable. No machine at any price can beat them hatching. See them in operation at our store. We use them to hatch thousands of chicks every week. See the great Success brooder. The heater is the greatest invention ever made on a brooder. Catalogue is now on the press, send for it. Poultry lectures and other useful information for you. Prices on Success Incubators and brooders will astonish you. None can beat the price or the goods.

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Baby Chicks and Hatching Eggs
Thousands of Chicks of all varieties hatching every week. Buy your Chicks and Eggs here and save money. We can sell you thoroughbred eggs of any variety for less than you can get them anywhere. All eggs guaranteed. Send or phone for price list.
Pioneer Hatchery Co.
711 So. Main St., Los Angeles
Main 5651 F 1635

cracked corn, wheat and Kaffir and diminish egg and bread until poults are from four to six weeks old, when a whole grain ration can be fed. Clabber cheese is good for poults any time.

* * *

Feed for Pigeons.

What is the best feed to give pigeons to make their eggs fertile? Also what is the cause of infertile eggs?—E. G. S., Morganhill.

There are several causes for infertile eggs in pigeons. Your birds may be too fat, which is caused by feeding highly stimulating food. Another cause is lack of stamina in cock bird, or perhaps your birds won't mate. If you are sure your birds have mated cut off about half of cock bird's tail. Feed wheat and Kaffir corn. We know of some pigeon men who only feed wheat, yet have good success.

* * *

Chicken Pox.

Will you kindly tell "an Easterner" what is the matter with her chickens. They were all right and growing fine until the recent rains; then their eyes all swelled up, one has a lump on its eye as big as a medium-sized marble. Great lumps or warts came in their bills and they drooped and died, although dosed with red pepper tea and their heads rubbed with lard and pulverized alum. What is good for the chicken chicken pox? I know what to do for the other kind.

For chicken pox we quote from Dr. Sanborn, a recognized authority on poultry diseases:

The prominent symptom of chicken pox is the sore and scab on comb and wattles. Sometimes they appear only on the eyelids. Unless the bird has been exposed to cold and wet there may be little signs of general illness. Appetite may be good, the bird lively, but those pox marks on the head tell the story. After you have once seen a case you are not likely to mistake the disease. I write of the cases where the eruption shows only on the edges of the eyelids because of the experience of one of the large New England plants two years ago. Disease appeared in several of the large flocks, the only symptom being the pox marks on the eyelids. Quite a number of the hens died; the disease was spreading to pen after pen, and yet they did not know the trouble on hand. Two hens were sent to me by express and, on examination at my station, I reported: "Chicken pox." The two hens were at once sent back to the farm, one being dead when they arrived. Soon there were plenty of cases with pox marks all over the comb and wattles and my diagnosis was found correct.

Chicken pox cases need special care lest they take "cold." Sick birds should be housed, protected from drafts, and given pure air to breathe. Exposure to wind or storm nearly always adds catarrh, roup or canker. Either of these added to chicken pox makes the case a serious one. Most cases where there is the combination of roup and chicken pox finally die. It is almost surely fatal to allow a chicken pox hen to run out in the cold rains of fall or winter.

Simple chicken pox needs little drugging except to get all the calcium sulphide possible into the birds. Calcium sulphide is a heavy, dry, bad smelling powder, and can usually be bought in four ounce bottles for twenty-five to forty cents. A little of the top of the contents of the bottle may be thrown away, if it is dryer than the rest of the drug. One heaping teaspoonful of the heavy powder can be mixed with four quarts of wet mash and fed freely to all ill birds once a day. This should be kept up as long

Foul Roosts And Clean Nests
Neglect, sheer neglect, lies at t foundation of most poultry troubl Lice come, multiply and *stay* becau a simple, easy remedy that might quickly applied is overlooked dur press of other business. Keep yo houses clean, especially about t roosts, and occasionally sprinkle
Instant Louse Kille
freely in nests, on roosts, platforn and in any out-of-the-way crevic where lice may harbor. It is a ce tain remedy and will effectually d stroy them.
Instant Louse Killer was formulate by Dr. Hess (M. D., D. V. S.) and sure death to all animal parasite Kills rose slugs, cabbage worms, an bugs on cucumber, squash and melo vines. It is also a good disinfectar and deodorizer. Being a powder, may be used either winter or summe Sold in shaker top cans. See that th word "Instant" appears on the can.
Sold under a written guarantee.
1 lb. 35c; 3 lbs. 85c.
If your dealer cannot supply yo send your order to us.
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THE PETALUMA INCUBATOR CO., PETALUMA, CAL., Pacific Coast Distributers.

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By the Bihn-Schofield Method of Incuba
PATENTED
Are well hatched — are hatched as the hen hatches. Four years ago we could handle 3,5,0 eggs at one time, but with a present capacity of 100,000 eggs we can not fill our orders during the Spring months. Our chicks are always str and no weak or defective chick is even t out knowingly. The Petaluma plant se White Leghorns only.
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Gardena Hatche Gardena, C

CHILLED AND STEEL PLOW
Buy the Genuin South B Larges Assortme Plows for work and
ARNOTT & COMPANY, Los Angeles, C
Write for Catalog. 112-118 So. Los Angeles

Buff Leghorns
Eggs and stock for sale from the best pla California. Nov. 1908 nearly all prizes at Han Fresno and Petaluma, including 4 silver c Eggs $3.00 per setting from select matings, per 100 from choice stock.
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Kingsburg, Fresno Co. Cal.

East Side Poultry Yard
Barred Rock and Buff Orphington Eggs
Chicks hatched to order. We have taken t most care in procuring pure stock, also sel by the "Hogan System". Visitors and c pondence solicited.
E. J. Look No. 16 Hancock E. San Jose, Cal.

Bronze Turkey
Breeding stock and eggs for s Gobblers $5.00 to $10.00 each. H $3.00 to $5.00 each. Eggs 10 to each.
C. E. Bunker
San Jacinto, C

S. C. Rhode Island Reds True Red Ya
Four pens, headed by Red Ranger, Red Fla Red Scout, Red Cloud. Eastern winners. E standard utility, $1.50; select fancy, $2 for 1 u ity stock, $2. A. B. WHITE, DOLGEVILLE, CAL

WHITE AND BUFF WYANDOTT
And Golden Sebright Bantams, prize winner
Stock and Eggs in season
M. E. Dillingham, Box 67 San Gabriel, C

ce! Lice!

Why pay high prices for lice
killers which are often ineffective?

o Lice Formula

Effective, practical and inexpensive. A formula for the best preparation known for the extermination of lice and mites. All poultrymen agree that lice and mites have caused more loss and failures in the poultry business than any other cause. Deduced by an expert and practical poultryman. Used by the leading fanciers and poultrymen. Send 25c for formula and complete instructions to

. Sparks, Box 64, Sierra Madre, Cal.

EORGE W. POPPELWELL
Successor to C. H. Robbins
eder of White Leghorns, Black Minorcas
Barred Plymouth Rocks. Eggs for hatch-
$1 to $5 per setting. Single birds, trios
breeding pens a specialty
ds at Ranch (10) Phone Main 1583
W. Fremont St., W. Stockton, Cal.

on't Hatch Chickens!

l do it for you cheaper than buy-
eggs. Thoroughbred Brown and
e Leghorns 10c each. Buff Orping-
15c. Address

. L. Green, Anaheim, Cal.

FEED CUTTERS
HAND AND POWER
All Sizes, Best Makes, Lowest Prices. Agents Wanted
Write for Catalog
Arnott & Company,
112-18 S. Los Angeles St.
Los Angeles, - Cal.

SLOWS REDS EXCEL e Comb - Rose Comb E ISLAND REDS Red Bantams Mo ovia Cal HER POULTRY YARDS

WINSLOW'S REDS The bird for the Farmer and Fancier.
Write for 1908 Mating list.
Red Feather Poultry Yards
Dr. C. E Winslow, Monrovia, Cal. Send stamp for Red Standard.

e Leghorns Buff Orpingtons
Black Minorcas
Partridge Wyandottes
Poultry Show, 1907, with 20 birds
d splay we took 14 prizes, four
s. Young stock for sale. Eggs in
TIA POULTRY FARM, Fowler, Cal.
Smith & Darling, Proprietors.

DE'S RHODE ISLAND REDS
The World's best layers. Get our folder. Drop a postal to
.Shade San Bernardino, Cal.

here are any scabs in sight. It is
od practice to give the same drug
ll fowls that have been kept in
act with ill ones. If "colds" of
sort appear in these cases of
ken pox it will be well to put just
m of kerosene oil on the top of
water in the fountains.

KIN DUCKS GOOD LAYERS.

old darkey preacher once said
is hearers after failing to impress
one during his sermon, and be-
compelled to "take to the brush:"
ever could preach very well,
ern, but if you will indulge me
tle longer, I'll try and tell my
rience in spite of old Satan!"
w we may all have our ideas,
perhaps be able to express our
s in a way to interest others, yet
we advise, with profit, much be-
our actual experience in any
of business? Money, brains and
did equipment have failed of
ess in the poultry business be-
of the lack of experience. As a
men who have made any busi-
a success have started with
ted means, and step by step
ked their way to fame and for-

r years I have been an admirer
White Pekin ducks, and finally de-
l that I would give the subject a trial. I secured the best stock I could get, viz., the Rankin strain of the Mammoth White Pekins, my start being eleven very large eggs which I placed under a large Plymouth Rock. At the proper time I got eight very hardy, thifty young ducks which developed into splendid specimens of their kind. I retained three ducks and a drake, selling the others for $1 each at four months old. After they were grown I was greatly surprised to find what a small amount of feed they consumed, when I had always heard that they were such ravenous eaters. I gave them good conditions and was surprised to find them beginning to lay when seven and one-half months old, and when just a year old they had averaged just 100 eggs for each duck, and when thirteen months old they had each produced 122 eggs. During the month of May they laid 42 eggs in fourteen consecutive days, and at another time 16 eggs on five days consecutively. I have sold over $20 worth of eggs for hatching without advertising any beside the eggs that were used for eating. I have raised a flock of 25 splendid young ducks and have not lost one by weakness or disease.

I have learned that by care and proper feed we can get results far beyond our expectations, if we get in real earnest, go careful and do not use slipshod methods in our treatment of profitable fowls.—Farm Stock Journal.

eam Separators, all sizes, all prices.
. Weber Co., 555-557 S. Los Angeles
t. Los Angeles.

SOME POULTRY TERMS.

A cockerel is a male bird less than a year old.

A cock is a male bird over a year old.

A pullet is a female bird less than a year old.

A hen is a female bird over a year old.

A yearling is generally one counted as having laid twelve months.

A sitting of eggs is thirteen, although many poultrymen have increased it to fifteen.

A broiler is a bird weighing two pounds or less, and from six to twelve weeks old.

A spring chicken is a young bird weighing over two pounds.

A capon is the male bird deprived of its generative organs for the purpose of improving the weight and delicacy of its carcass.

A stewing chicken weighs about three pounds.

A roaster weighs four or more pounds.

A poult is a turkey in its first year.

A poularde is a pullet deprived of the power of producing eggs, with the object of great size.

A trio is a male and two females.

A breeding pen is generally made up of from six to fourteen females and a male.

The male chick is called a cock, the male goose a gander, the male duck a drake and the male turkey a tom.

The Success (no lamp) Incubator Company, White Salmon, Wash.

TRANSFER OF STOCK.

This is to certify that I have sold all my Columbian Wyandottes, fixtures and good will to Bloom and Vandergood of Glendora, Cal. In this transfer Mesrs. Bloom and Vandergood get one of the best flock of Columbians on the Coast, as the sale included all of my prize winners. The above firm are painstaking, careful breeders and business men, and I know that the Columbians are in good hands and that no expense or trouble will be spared in keeping this flock in advance of any on the Coast.—Ed. M. Burnell.

WHAT CAUSES HEADACHE
From October to May, Colds are the most frequent cause of Headache. LAXATIVE BROMO QUININE removes cause. E. W. Grove on box 25c

A New Deal
ON
Sure Hatch Incubators
For Pacific Coast Trade
Lower Prices!

Every Incubator Buyer Should Investigate

We have discontinued our Los Angeles selling agency and are selling direct to the user from the factory. We have a few machines at Los Angeles and a fine stock at Salt Lake City. Don't buy until you get our Free Catalog and New Prices. Quick action is absolutely necessary, as these machines at bargain prices will be snapped up in a hurry. Write immediately to

Sure Hatch Incubator Company
Box 150, Fremont, Neb.

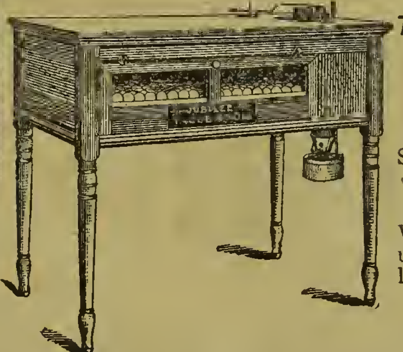
Free Book and Bargain Price Certificate
SURE HATCH INCUBATOR CO.,
Box 150, Fremont, Neb.
Please send Free Book and Bargain Price Offer.
Name ____________
Address ____________

Ranch Mirasol (Lincoln Avenue Poultry Yards)

S. C. White Leghorns--Mitchell Strain
Eggs for Hatching

Our birds are not the culls and accidents of the fancy breeder, but have been bred for generations for a definite utility type to lay both quality and quantity. They are selected by the Hogan system and mated by Standard requirements. Ready for delivery January 1st. Order books now open.

Carl C. Curtis, Owner, Lincoln Avenue and Ventura St. Pasadena, Cal.
ALTADENA CARS



The Jubilee Incubator Co.

HAS A BIG SURPRISE FOR THE POULTRY FRATERNITY

SUCCESS NOW ASSURED BY USING
The Jubilee

We have something new for you. Send us your name to place on list for Catalog "J" being issued.

Jubilee Incubator Co., Sunnyvale, Cal.

Doke Chick Feed is The Pioneer Chick Feed

A Balanced ration made of pure grains (cracked), Seeds, Beef Scrap Charcoal.
No grit no waste or bowel trouble in feeding this feed,
Will send freight prepaid to any address for $3.50 per 100 lbs. Arizona points 50c extra.

Pioneer Hatchery 711 South Main Los Angeles, Cal.

Barred and White Rocks
White Wyandottes and Beautiful Little Golden Sebright Bantams

If you want birds of the highest quality, bred for standard and utility, write your wants. I guarantee satisfaction.

D. T. Heimlich - Jacksonville, Ill.

Starbuck's Barred Plymouth Rocks
We trap nest our hens. Why set from poor layers? Bird laying qualities are inherited the same as any other. This year we have discarded all old matings and have gone to the next generation. Cocks have 9 generations of 200 egg mothers. Hens all from 200 egg mothers and from cock with 6 generations of 200 egg mothers, and are layingfine. We have divided into pens according to the way they are showing up in six months laying. $2.50 for 13 eggs from first pen. $1.00 from 2nd. until they have time to make longer records. (Except from our one best, not for sale. We claim the world's Barred Rock, 6 months laying record for this one.) Do you wish to hear about our prize winning Buff Orpingtons and Silver Wyandottes? We have something to crow about. No Sunday sales or visitors. Wm Starbuck & Son. Fullerton

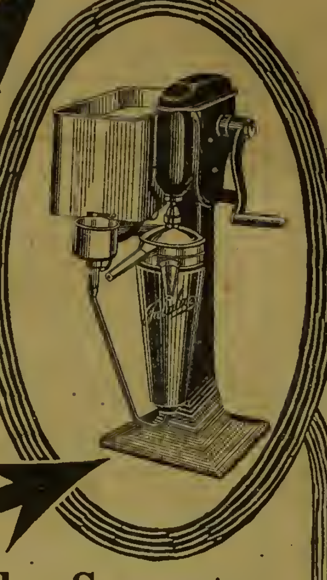
White Wyandottes Exclusively
Our strain have won in strong competition on the Pacific Coast
Day old Chicks, Incubator lots our Specialty, $15 per 100
Booking must be made in advance. Stock and Eggs For Sale. Send for our new Catalogue
GEORGE W GRACE & SON. RURAL 21 CAPITOL AVE. BOX 98, SAN JOSE, CAL.

Trap-Nested White Wyandottes
That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribons, all at Los Angeles County Poultry Ass'n Show, Dec. 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah.
Mission View Poultry Ranch Mrs. C. D. Hubbard San Fernando, Cal.

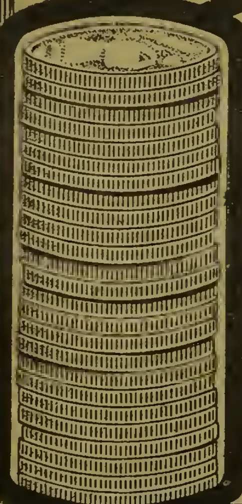
CREAM PROFITS

If you are selling your whole milk to the Creamery you are not getting as much profit from your cows as you should. In fact you are losing 50 per cent. Without increasing your feed bills one penny or milking another cow you can double your cream profits. This is demonstrated by thousands of dairymen and farmers every day in the year.

The Sharples



Tubular Separator



gets all the cream in the milk—it skims out every cent of profit, so that you can turn it into cash. Here's one letter that tells the story of how to double your cream profits:

Union Mills, Ind.
GENTLEMEN:—We have a Sharples Tubular. Before we bought it, we had been selling our milk to a creamery at Union Mills, getting not more than $8.00 a month, but **since we have the Tubular, we have been getting twice more,** and are so satisfied with the Tubular.
MRS. JOHN C. MILLER

Such proof as this ought to convince you that a **"Tubular"** will be a money-maker for you. The extra profit will soon pay for the separator while it will keep right on earning these big profits for years. Write today for our new catalog and **free** copy of that valuable book, **"Business Dairying."** Ask for book No. 260.

THE SHARPLES SEPARATOR CO.,
West Chester, Pa. Toronto, Can. Chicago, Ill.

West Coast Cresol Dip

Strongest and most effective Germ Destroyer, Insecticide and disinfectant. Made of Coal Tar Creosote Oil. Great caution must be exercised in using Carbolic Dips and those that contain Petroleum oils. Reports in 1905 from Wyoming show that many sheep died on account of dipping in petroleum. Sulphur-Lime dips impair the quality of wool on sheep, and sometimes blind them. Tobacco dips very often sicken sheep. And none of these dips can compare in effectiveness with Cresol Dips. These, while being most effective, are perfectly harmless. Wool is improved by their use, as it not only cleanses the wool but leaves no stain and gives it a soft texture.

But Cresol Dips differ very much. A Coal Tar Dip depends for its activity almost entirely upon the Cresylic Acid it contains. West Coast Dip is guaranteed to be made from Coal Tar Creosote Oil containing 25 per cent Cresylic Acid. Most dips sold in the United States are made from domestic creosote oils, which run about one-half the strength of imported oil. Permission was given by the U. S. Dept. of Agriculture to use our Dip for the treatment of sheep scab in the proportion of one part Dip to 67 parts water. This is the highest dilution we have ever heard of being permitted by the Department. When thus diluted it costs but a trifle.

For sale by many dealers. If yours does not keep it, send direct to us for trial offer, "special price and freight prepaid."

West Coast Mill
818-826 San Fernando Street
(Through to Alameda Street)
LOS ANGELES CALIFORNIA

Milking Machines

that satisfy both the cow and the man are found in

Mehring's Foot Power Cow Milker

which have done successful work for six years in New York and two years on this coast, and, in fact, are doing practically the same work as some "power" machines costing six or seven times as much.

A. F. Steiner & Co.,
2408 Grove Street, Berkeley, California

O. J. Weber Co., 555-557 So. Los Angeles St., Los Angeles, California, Distributing Agents for Southern California

Live Stock and Dair

CALIFORNIA'S BUTTER YIELD.

THE State Dairy Bureau of California has completed its compilation of the output of dairy products in the State during the year ending September 30, 1907. As no official report is issued by the Bureau this year, this result of the Bureau's work in this line has been given to the public through the press. The work of compiling these statistics has occupied much of the attention of the Bureau during the past four months, owing to its determination to have them as accurate as possible. The figures given out are compiled almost exclusively from written reports received from the creameries and other producers. In order to show the condition of the industry throughout the State, its development and retrogression in the different counties from year to year, the production is determined by counties. Owing to the growing custom of shipping cream from one county to another to be churned, as a result of the centralized creamery system, the work of keeping the fat produced by each county separate is becoming somewhat difficult, but the Bureau believes that through the assistance rendered by the creameries that receive cream in this way the segregation presented is quite accurate.

The following table shows the production of butter by counties from September 30, 1906 to September 30, 1907:

County	Pounds
Alameda	728,767
Alpine	28,360
Amador	229,990
Butte	208,444
Calaveras	135,666
Colusa	296,662
Contra Costa	639,641
Del Norte	699,878
El Dorado	203,486
Fresno	2,786,817
Glenn	183,384
Humboldt	4,390,815
Inyo	110,566
Kern	372,569
Kings	1,960,364
Lake	87,938
Lassen	376,184
Los Angeles	953,624
Madera	112,011
Marin	3,846,758
Mariposa	19,281
Mendocino	534,359
Merced	2,469,726
Modoc	137,647
Mono	23,640
Monterey	531,801
Napa	613,109
Nevada	127,364
Orange	287,541
Placer	280,756
Plumas	356,548
Riverside	484,090
Sacramento	1,060,098
San Benito	135,730
San Bernardino	220,653
San Diego	1,241,817
San Francisco	—
San Joaquin	1,625,538
San Mateo	260,447
San Luis Obispo	1,396,524
Santa Barbara	740,292
Santa Clara	307,509
Santa Cruz	340,800
Shasta	11,540
Sierra	223,824
Siskiyou	479,627
Solano	862,179
Sonoma	3,723,941
Stanislaus	3,615,496
Sutter	329,367
Tehama	158,281
Trinity	17,466
Tulare	2,522,707
Tuolumne	32,368
Ventura	162,124
Yolo	726,532
Yuba	176,592
Total	44,599,211

Compared with previous years the past season shows up as follows:

Year	Pounds
1897	28,678,439
1898	23,691,028
1899	24,86
1900	28,78
1901	29,70
1902	31,52
1903	34,78
1904	35,63
1905	41,96
1906	44,04
1907	48,59

While the past season sets a mark in the production of butte California, the gain over the pre ing year is slight, amounting to proximately one per cent incre Comparing the separate counties the preceding year, it is interest to note the remarkable difference comparisons in the showing am the different counties. Some co ties in what may be called the dairy districts gained as high as t ty per cent, which was offset by loss in older counties. A remark instance of growth in butter prod tion is given in case of Stanis county which increased from 2,7 582 in 1906 to 3,615,469 pounds for past year. All of this butter is m in large creameries from which curate reports have been recei and there is no doubt as to the sh ing being correct. Another inter county that shows a remarkable crease in production is Tulare co ty, in which the gain was twe per cent. Among other interior co ties that show progress in butter p duction are Kings and Fresno co ties. In the southern part of State San Diego is the only cou that shows a gain, although this g is confined more properly to Imper county, which has been divided fr the former during the year cover by the table presented.

Taking up the counties that ha made no progress in production ov the preceding year, or that have r rograded, we find conspicuously Sa ramento and Yolo, two counties t heretofore have shown a s growth from year to year, the retr gression being due to the disastro flooding of the reclaimed lands du ing the early part of 1907. Oran county, in the southern part of t State, a heretofore important dai county, has suffered in butter produ tion by the exodus of dairymen in the San Joaquin and Imperial vall where lower priced lands and oth equal opportunities present the selves. The old counties in wh the dairy business established ist years ago, such as Marin, Sono Humboldt and San Luis Obispo, ha held their own, while it is nota that Mendocino, and a few of other more isolated counties, ha suffered a marked decline, which undoubtedly due to the difficulty securing laborers in isolated distric In fact, the labor situation is at t bottom of the lack of progress t the industry on the average h shown. Had it not been for this stacle, with a favorable year all ov the State so far as feed productio is concerned, few counties wou have fallen off, while it would ha brought about a vast increase in t business in the alfalfa growing di tricts.

The relative position of the lea ing counties of butter has undergon little change as a result of the la season's production. Humboldt cou ty still holds her place at the hea followed by Marin, Sonoma, Stan laus, Fresno, Tulare and Merced the order given.—W. H. Saylo Secretary.

OTHER GREAT GUERNSEY RECORD.

'e take the following from the ens, Wis., Record, referring to cow and the Helendale Farms:

is not often in the history Guernsey cattle in America one herd gains a pronounced l in Advanced Registry tests in show ring successes. A centration of the winners in herd has not before been omplished. The last A. R. test ıed at Helendale Farms places Helendale herd in a position er before attained by any one d in the United States. The herd wed at Chicago, having then four ıs leaders in the Advanced Regis-

aturday night, Nov. 23, Robiline No. 16117, A. G. C. C., completed ear's official test with a record of 59 pounds of butter fat, which es her in the coveted position in 3½ to 4-year-old class of Guern-. Her test exceeds her require-its by 3348.35 pounds milk and 99 pounds butter fat.

er feed record:

ov. 56 lbs. grain of the following ture: 4 parts bran, 2 parts oats, arts gluten, 1 part of oil meal, 1 cornmeal and ½ part Brewer's n; 140 lbs. ensilage, 42 lbs. roots, er and alfalfa hay.

ec. 279 lbs. grain mixture, 930 ensilage, 155 lbs. roots, clover alfalfa hay.

ın. Same as December.

eb. 252 lbs. grain mixture, 740 ensilage, clover and alfalfa hay.

arch. 310 lbs. grain of the fol-ng mixture: 4 parts bran, 3 s oats, 2 parts gluten, 1 part ajax es, 1 part oil meal, ½ part corn-l, 930 lbs. ensilage, clover and lfa hay.

pril. 300 lbs. grain of above mix-, 900 lbs. ensilage, clover and al- hay.

ay. 310 lbs. grain of the follow- mixture: 4 parts bran, 2 parts , 2 parts gluten, 1 part ajax es, ½ part oil meal; 620 lbs. en-ge and pasture.

ıne. 180 lbs. grain of the follow- mixture: 4 parts bran, 2 parts , 1 part gluten, 1 part ajax flakes ½ part oil meal ,and pasture.

ıly. 186 lbs. grain of the follow- mixture: 4 parts bran, 2 parts , 2 parts gluten and 1 part oil l; 620 lbs. green peas and oats, er and pasture.

g. 279 lbs. grain of the above ure: 4 parts, 620 lbs. green peas oats and pasture.

pt. 270 lbs. of the following ure: 4 parts bran, 2 parts oats, rts gluten, 1 part cornmeal, 1 of oil meal and 1 part of ajax s, clover and alfalfa pasture.

t. 310 lbs. of grain of the above ure, ensilage, 310 lbs., roots, clov-nd alfalfa hay.

ov. 207 lbs. of above mixture, lbs. ensilage, clover and alfalfa

---

HAND CREAM SEPARATOR.

ıthority on the subject of farm ying will agree that any farmer milks five cows or more and is er selling the cream or making er of it, needs a centrifugal hand m separator to secure the best its.

ıe hand cream separator, work-under favorable conditions, does leave over 1-20 of a pound of er fat in 100 pounds of skim . The gravity systems and dilu- separator methods of securing butter fat will leave, under favor- conditions, from 1-3 to 3-4 of a pound of butter fat in 100 pounds of milk.

According to these figures, a farmer who uses a hand separator and milks 10 cows, which produce 60,000 pounds of milk a year, would lose in the skim milk but 30 pounds of butter fat a year on the total amount of milk. By the other methods he would lose from 200 to 450 pounds a year. Figuring butter fat at twenty cents a pound, there would be an annual loss of from $34 to $84 between the hand separator and the other methods.

Advantages of the Separator.

Not only does the machine secure practically all the butter fat, but it delivers the skim milk in a sweet, warm and undiluted condition ready to be fed to the calves. Very few dairy utensils are needed, as the milk is separated as soon as it comes from the cow and the skim milk is fed at once.

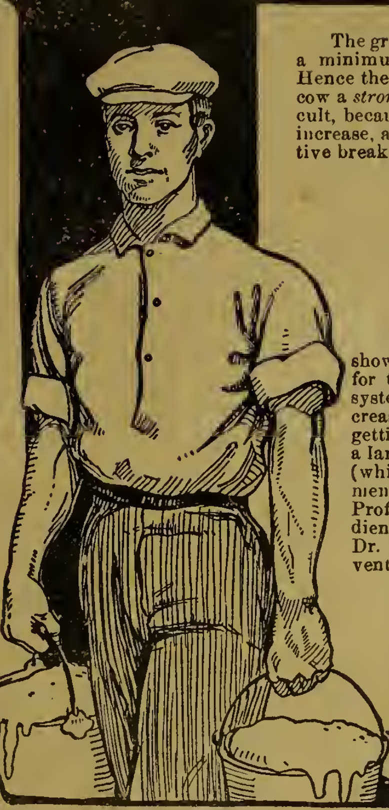
Less work is required to handle the milk in this manner than with the other method.

The cream delivered from the separator is of uniform richness; it has had all the fibrous and foreign matter removed. The milk has not absorbed bad flavors and odors from standing around and the cream is in excellent condition for ripening. Thus there is a gain in the quantity and quality of butter obtained.

Not onlly is the centrifugal separator of advantage in the production of fine butter, but it is equally advantageous in the purification of milk and cream for direct human consumption. Dairies improve the quality of their milk very much by running it through the separator and then mix the milk and cream before botling it.

The average farmer cannot afford to haul the whole milk to the creamery, even if he is within hauling distance and the roads are good. Tbe skim milk often comes back in a cold, half-sour and contaminated

Two Pails From One Cow



The greatest yield of milk requires that food waste be reduced to a minimum and food assimilation increased to a maximum. Hence the road to success as a producer of milk lies in giving the cow a *strong digestion and increasing appetite.* This seems difficult, because we are continually overfeeding in our effort after increase, and consequently inviting nervous disorders and digestive breakdown. Here

DR HESS
STOCK FOOD
A TONIC

shows its value. A tonic and mild laxative, it contains iron for the blood and nitrates to expel dead matter from the system. Its use strengthens the stomach nerves and increases the secretions. A cow, steer, horse, hog or sheep getting Dr. Hess Stock Food is in condition to benefit from a large amount of food. It makes appetite for coarse fodder (which saves grain) and by improving digestion saves nutriment that would otherwise be wasted in the excrement. Professors Winslow, Quitman and Finley Dun endorse the ingredients contained in Dr. Hess Stock Food. It is the prescription of Dr. Hess (M. D., D. V. S.) and is valuable not only as a tonic but as a preventive of disease. **Sold on a Written Guarantee.**

100 lbs. $7.00. 25 lb. pail $2.00.
Smaller quantities at a slight advance.

Where Dr. Hess Stock Food differs in particular is the dose—it's small and fed but twice a day. which proves it has the most digestive strength to the pound. Our Government recognizes Dr. Hess Stock Food as a medicinal preparation, and this paper is back of the guarantee.

Free from the 1st to the 10th of each month—Dr. Hess (M. D., D. V. S.) will prescribe for your ailing animals. You can have his 96-page Veterinary Book free any time for the asking. Mention this paper.

DR. HESS & CLARK, Ashland, Ohio.
Also Manufacturers of Dr. Hess Poultry Pan-a-ce-a and Instant Louse Killer.
Instant Louse Killer Kills Lice.
THE PETALUMA INCUBATOR CO., PETALUMA, CAL., PACIFIC COAST DISTRIBUTERS.

DON'T BUY GASOLINE ENGINES UNTIL YOU INVESTIGATE "THE MASTER WORKMAN," a two-cylinder gasoline, kerosene or alcohol engine, superior to any one-cylinder engine; revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durability. Costs Less to Buy—Less to Run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or traction engine. SEND FOR CATALOGUE. **THE TEMPLE PUMP CO., Mfrs., Meagher and 15th Sts., Chicago.** THIS IS OUR FIFTY-FIFTH YEAR.

The Lafayette Stock Farm

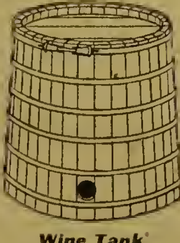
J. CROUCH & SON, Props. *LAFAYETTE, IND.*

America's Largest Importers of Percheron, Belgian and German Coach Stallions and Mares.

OUR WINNINGS IN THE AMERICAN SHOW-RING IN 1907 have never been equaled in any one year by one person or firm. AT THE OHIO STATE FAIR in 1907 we won 15 first prizes, 9 seconds and 6 thirds. AT THE INDIANA STATE FAIR—17 firsts, 11 seconds and 7 thirds. AT THE ILLINOIS STATE FAIR—18 firsts, 12 seconds and 7 thirds. AT THE MISSOURI STATE FAIR—17 firsts, 11 seconds and 3 thirds. AT THE AMERICAN ROYAL LIVE STOCK SHOW at Kansas City, Mo.—20 firsts, 10 seconds and 6 thirds. AT THE GREAT INTERNATIONAL at Chicago, Ill., we won 30 firsts, including five championships, 13 seconds and 10 thirds. Our guarantee is best and terms liberal. Permanent Sacramento Location, 1309 J Street (in rear.)

Obtainable at All Druggists
and General Dealers

Use
"Western"
Condition Powders
for Horses and Cattle
The Best Tonic on Earth
Put up by 1-lb. Package, 25 cents
Western Wholesale Drug Co.
Los Angeles, Cal.



Wine Tank

Tanks Tanks
WINDELER'S PLANING MILL
AND COOPERAGE
GEO. WINDELER, Prop

Water Tanks, Wine Tanks made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

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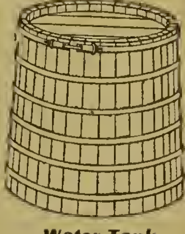

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Hand separators may be procured in sizes varying in capacity from 150 pounds of milk (18 gallons) an hour to 1200 pounds (144 gallons) an hour. The prices varying from about $40 for the smaller size to about $175 for the larger size, depending upon the particular make.

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The average separator of standard or reliable make should last, with good care, for 12 or 15 years, with very few repairs.—H. M. Bainer, Prof. of Farm Mechanics, Colorado Agricultural College.

THE EFFECT OF HEAVY MILKING ON THE PROGENY.

In a recent number of the Tribune Farmer a man writes to Dr. Smead stating that he has a cow that drops a vigorous calf only about every other year, that the cow was never dry except about three weeks before calving. She has always been a large milker. The doctor tells him that the cow is evidently one whose heavy milking qualities impairs her ability to properly nourish and build up her calf while in embryo. He further tells the owner to be careful to feed the cow well of ground oats, corn meal and bran, while she is milking and while dry. The idea is, that this cow must have sufficient right food to build well the body of the calf. There is nothing but the best of good sense in that advice. He should have advised him to let the cow go dry at least 60 days, instead of 21 days; so short a period as that is very apt to produce serious udder troubles. In these days of ambition to produce cows of great capacity and make them yield largely at the pail, it is well to remember the calf that is to be born. There must be reason in all things.

The cow cannot turn all the nourishment she derives from the food she gets into the milk pail and still have enough to build up her offspring rightly. We want good calves from these good cows. The owner of the cow must do his share to that end. He must see to it that the mother has enough of the right kind of food and goes dry long enough to do that work rightly.—Hoard's Dairyman.

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"I think that Williams is the nerviest chap I ever met."

"Well, what has he done?"

"Came over the other day and borrowed my rifle to shoot a dog that was bothering him nights."

"What of it?"

"It was my dog."

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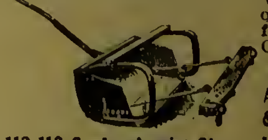

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SALE—WHITE LEGHORN EGGS— m my 2000 laying hens I have selected f the best and mated them with Howind McFarlane male birds. All mature strong, vigorous and great layers. All promptly and carefully filled. Price per 100; $45.00 per 1000. Phone, Glen- 641, C. M. WALTON, Glendale, Cal.

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WHITE MINORCAS (EXCLUSIVELY)— Best layers of large white eggs. L. V. PETERSON, Guerneville, Cal.

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WANTED—ONE-YEAR OLD LOGANBERry plants. Address P. O. BOX 2697, Fresno, California.

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WANTED—CUTTINGS OF THE FOLLOWing for grafting purposes: Rupestris St. George, Riparia x Rupestris 3306, Riparia x Rupestris 3309, Riparia x Rupestris 106-8 and Mourvedre x Rupestris 1202. Address FANCHER CREEK NURSERIES, Fresno, California.

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Hosts of farmers and teamsters, who ought to know better, think that "grease is just grease anyway" and so cut the boxes out of their wagon wheels by using some inferior lubricant which runs off and leaves the spindle dry, or forms a stiff, almost gritty substance in the wheel which is just as bad.

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It should have, too, a long-lasting quality if it is to be economical.

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A little Topeka girl came home from church the other day, and was asked what the minister's text was. "Don't be afraid and I will get a bed quilt," was the astonishing answer. Investigation proved that the central thought of the sermon had been "Fear not, and I will send you a comforter."—The Technical World .

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Second Summer Girl—Oh, he's an actor.

First Summer Girl—No; I mean the other one.

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and thoroughly tests it then orders 5, 10, 25 and upwards, and writes us "I have replaced all my Brooders with the Reliance Brooder, because it is scientifically perfect, it has no equal; at 7 weeks I had chicks weighing 1 lb. 7oz.; I know of 50 that were bought on my recommendation, every one was satisfactory." Can there be any question in your mind what Brooder to use? If you still hesitate, write us and we will send you a list of a great number of the most successful Poultry Raisers in Southern California who now use the Reliance Brooder exclusively, and all of them report wonderful results.

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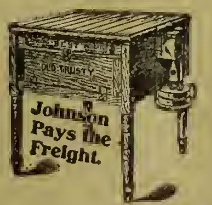

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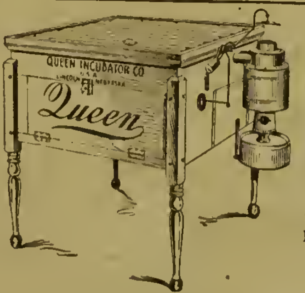

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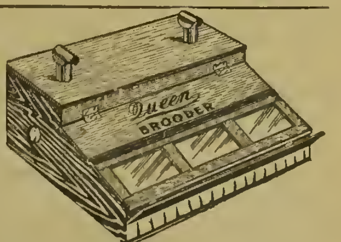

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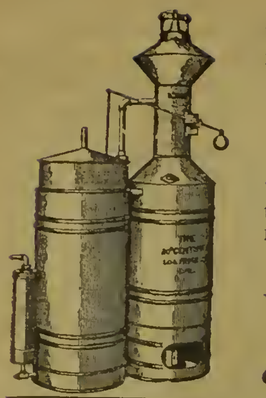

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Why? There is no part of it that you can't see through the new port just opposite the feed, so you know just as much about it as we do.

1908 Model, 4 Sizes, now ready for delivery.

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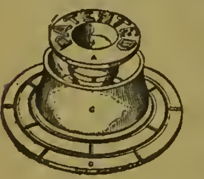
Call in and inspect our fine Banking and Safe Deposit Department. Best in the West.



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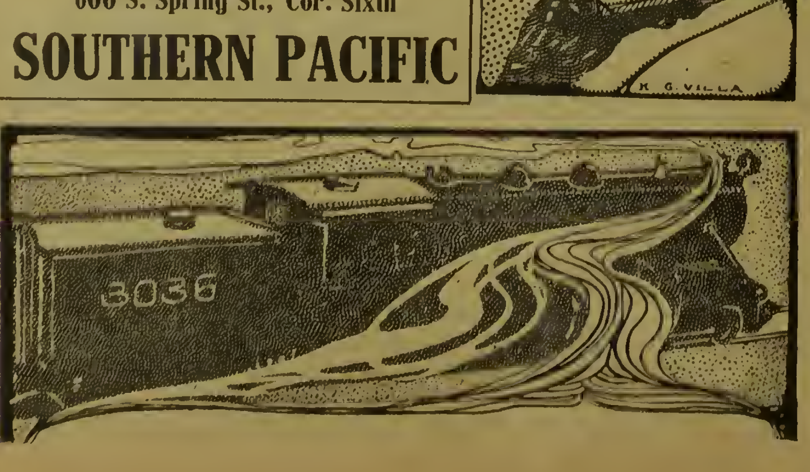
SOUTHERN PACIFIC



Household Departme

DOES MA WISH SHE WAS PA?

"I wish I had lot o' cash,"
Sez pa, one winter's night;
"I'd go down South an' stay a while
Where days are warm and bright."
He set an' watched the fire die
(Seemed lost in thoughtful daze),
Till ma brought in some fresh pine knots
An' made a cheerful blaze.

"I wish I had a million shares
O' stock in Standard Oil,"
Sez pa; "I wouldn't do a thing."
Ma made the kettle boil,
An' mixed hot biscuits, fried some ham
An' eggs (smelt good, you bet!)
Fetched cheese an' doughnuts, made the tea,
Then pa—set down an' et!

"I wish I was a millionaire,"
Sez pa; "I'd have a snap."
Next, from the lounge, we heard a snore:
Pa—at his ev'in' nap!
Ma did the dishes, shook the cloth,
Brushed up; put things away,
An' fed the cat, then started up
Her plans for bakin' day.

She washed an' put some beans to soak,
An' set some bread to rise;
Unstrung dried apples, soaked 'em, too,
All ready for her pies;
She brought more wood, put out the cat,
Then darned four pairs o' socks;
Pa woke, an' sez, "It's time for bed;
Ma, have you wound both clocks?"

—Mary F. K. Hutchinson in March Woman's Home Companion.

THE GIRL AND THE TEST.

THE teacher stood watching the class in algebra take a test. It was a fair examination, containing no "catch" questions, but problems similar to those which the pupils had solved day after day. There was no need of haste, for the teacher had said, "Work carefully, taking the problems in order; I shall rank you on what you do, whether five or two." Again, "Do not hurry; it is correctness, not amount, which counts."

The boys were working deliberately, with here and there a frown at a problem which would not "come right;" but there was no such placidity among the girls. Each face was tense, fingers flew, there were mad dashes after erasers, gasps of consternation, and one girl, with hands clenched, actually jumped up and down in her seat. At the striking of the gong they filed out of the room utterly wearied. All this nervous force was expended on an ordinary test, the like of which, in some study, they met once a week.

The papers handed in were such as one would expect under these conditions. Those written by girls who work best under pressure were perfect, but most of them fell below the daily work; several contained portions of each problem, but not one completed. The owners proffered time-worn excuses with glibness: "I never do anything on tests;" "I always go to pieces;" "I had a headache;" and over and over, "I was nervous."

For once they received no sympathy; the teacher had been considering whether or not an examination is such an ordeal as it is customarily considered. When she returned the corrected papers she talked not about the failure in mathematics, but the failure in self-control.

"I can teach you mathematics," she said, "but I can't teach you self-control. No one but you yourself
can teach that. You offer 'r
ness' as an excuse for failur
are on the road to being
women—the kind of women
to pieces' in an emergency, wl
nervous prostration when thi
wrong. All of you know wo
that class, and many, many
know how much unhappine
causes. If you want to be th
of a woman, no one can sto
On the other hand, if you wa
a helpful, reliable woman, th
one naturally turns to in
you can make yourself so, b
have got to begin now to
your nerves.

"You can start in learning
tests calmly. Tests do not sto
school; there will be test da
your life. If you go into an
there will be days when yo
ployer will be ugly, the accoun
be tangled, and you will mak
takes in your dictation. The
be test days. If you are a t
there will be times when the
will be maddeningly stupid a
pupils exasperating. If you
housekeeper, there will be m
when the bread will not ri
cake will burn, the milk sou
the meat fail to come from th
ket.

"You are going to meet tho
days just as you meet school
now. If you keep your head,
win out. If you lose your gri
go to pieces as you did yest
you will be a failure. Anyon
work when all is smooth; it
crisis that shows what one is
of."

Some of the girls giggled,
sulked, but most of them appea
be considering the new idea
"nervousness' is not uncon
When the time of the next
tion came, the teacher said

"This is to be not only a te
your knowledge of algebra, but
a test of your self-control. W
you do all or none of the prob
one thing you are to do—k
grip on yourself."

During the next hour, whe
she saw the tense look, the
pose, she said firmly, "Quiet
we are not going to be nervo
day," and the girl instantly r
As a natural consequence, th
pers of this easily taken exam
were the best of the term.

If teachers in schools and p
at home would unite in discou
the view of examinations
holds them unavoidable but
mal ordeals in which "cram
and luck are prominent factor
substitute the thought that j
school work is a forerunn
world work, so school tests ar
liminary training for life tests,
pils themselves would come t
upon the matter in the same
A test should never be consider
legitimate excuse for "nervou
An actually nervous girl shoul
under a physician's oversigh
ing, sleeping and studying acco
to his directions—but in most
the nervousness is under the
own control, though she may
believe it. Some girls insist
they cannot help constant gigglin
class, but when every outburst
hysterical snickering is insta
and severely punished, they find
they are able to control them
If nervousness could be treated
true character of a contagiou

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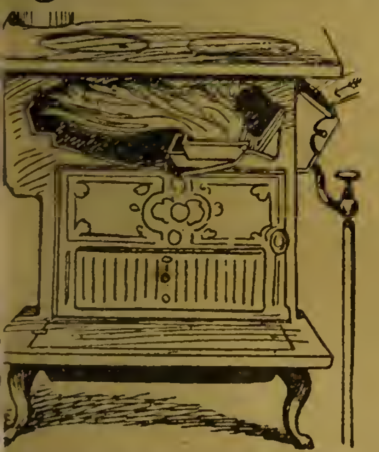

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ease, to be avoided when possible, and its victims isolated, it would no longer be a handy excuse nor an interesting state; and wondrous peace would settle over girldom.—The Interior.

SAVORY SAUCES.

White Sauce.

One tablespoon butter, one tablespoon flour, one cup milk, salt and white pepper to taste, melt the butter in a small granite or porcelain lined saucepan. Stir in the flour, taking care that this does not brown. When the mixture begins to bubble pour in the milk (it is better to have this warm) and stir until it thickens. Should it be too stiff add a little more milk. Season just as you take from the fire.

Bechamel Sause (for meat.)

One tablespoon butter, one tablespoon flour, half pint well seasoned and strained white stock from boiled veal or chicken, one gill cream. Cook butter and flour together, as in making white sauce. When they thicken well add the cream and take at once from the fire.

Bechamel Sauce, (for fish.)

Make in the same manner as the foregoing, substituting for the half pint of white stock the same amount of fish stock, made by putting the bones and trimmings of a fish with a bunch of sweet herbs, salt, pepper, a slice of onion and one carrot in one quart of water, and boiling this down to half pint. Add the gill of cream to this also.

Oyster Sauce.

One tablespoon butter, one tablespoon flour, one gill oyster liquor, one gill rich milk or cream, one dozen small oyster, half teaspoon lemon juice. Heat the oyster liquor to boiling, and cook the oysters in it about three minutes, till they begin to plump. Take them out, steam the liquor, put it with the milk, and pour both upon the butter and flour when they have reached the bubbling point in the saucepan. Stir all until thick and then drop in the cooked oysters, each cut in three pieces. Take from the fire at once, and add seasoning and lemon juice. This is good with boiled or baked fish or boiled fowl.

Loubise Sauce.

To a cup of white sauce add two medium sized onions, which have previously been boiled tender and chopped fine. Good with mutton boiled or roasted.

Brown Sauce.

One tablespoon flour, one tablespoon butter, half pint highly seasoned brown stock. Cook the butter and flour together in a sauce pan until they are a light brown, stirring constantly. Add to them the stock and stir until it thickens. This sauce to some tastes is improved by the addition of a teaspoon of Worcestershire sauce or walnut catsup. If the flour is browned before cooking it will expedite the process of making the sauce.

Butter Sauce.

Make as directed for white sauce, substituting boiling water for milk.

* * *

A New Prune Pudding.

Take one pound of good prunes and after washing them well cover with water and soak over night. In the morning add half a cupful of sugar and simmer over the fire until tender. Then slip out the stones and chop the prunes, break the stones, remove the kernels, pound the kernels to a paste and add to the prunes. This gives to the pudding the flavor of dates. Beat the whites of two eggs until stiff and stir lightly into the prune mixture; then place in a moderate oven and bake about twenty minutes. Serve with whipped cream or thick custard.

Brownies.

One cup sugar, one-half cup butter, two eggs, two squares choclate melted, one-half cup of flour, one-half cup raisins, walnuts or peanuts. Favor with vanilla, bake in a moderate oven and when cool cut in small squares. These are very nice for lunch or afternoon tea.

Novel Maccaroons.

One cup sugar, two eggs, well beaten; pinch salt, one-half cup shredded cocoanut, one and one-half cups oatmeal, from the package, dry. Flavor with vanilla. After mixing thoroughly, drop on buttered tins and bake about ten minutes in a comparatively hot oven. This will make seventeen or eighteen. They are literally delicious and inexpensive.

THE HOME DRESSMAKER.

Do not think it necessary to buy a new shirtwaist pattern each season. Buy a plain pattern of standard make and size required. Place it on some cheap lining material and cut out, then carry it to a reliable dressmaker and have her fit it carefully. You will then be saved the time and worry of fitting your waist each time, which means much time and worry saved to a busy housekeeper.

If tucks are desired, place them in the material before placing pattern on the goods. After the waist is cut out, the next step should be the marking of the perforations on the material for plaits. Also, those indicating the underarm, shoulder, seam and waist line. When a waist needs altering the changes are made in the shoulder seam and underarm.

When shoulder seams are desired longer than the pattern, split pattern through center of shoulder down to bottom of pattern, place the two pieces of pattern on material separating the amount required to lengthen shoulder.

If more fullness is desired at waist line, separate pattern two or more inches at that point.

If shoulder is to be shortened, lap pattern instead of opening.

Back of pattern is placed the same way.

Slash seam of neck band several times after first seam is sewed, the neck band will then fit much better.

Shoulder seams are stitched on wrong side, then stitched twice on right side with seam turned to front.

To arrange fullness in back of waist, measure from neck to waist line for length of back, then from the two underarm seams for width of back. Arrange fullness into a five-inch space, stitch tape across the fullness, allowing enough to go around waist.

Gather top of sleeve in two rows. Always hold gathers towards you when placing sleeve in arm eye.

The left side of the waist is turned inside out. Bring the inside seam of the sleeve to the notch in front, place notch in upper part of sleeve at shoulder seam. Pin securely at two points, pin the plain portion of the sleeve smoothly into arm eye. Draw gathers up to fit the remaining space and baste carefully Stitch with bias strip of lawn next to waist and hem down by hand over gathers.

Cuffs are cut lengthwise of material and are stitched one row close to gathers and another one inch below. Sides and bottom are stitched one-quarter of an inch from edge. Buttonholes are worked lengthwise of plait.—Rebecca Boswell, Instructor in Domestic Art, Colorado Agricultural College.

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The Produce Markets

Los Angeles Markets

Butter.

LOS ANGELES, March 4, 1908.—A decline of 2½ cents in quotations is noted this week, and heavy receipts have caused offers of a cent under quotations by some holders.

Creamery ex per roll	57½
Firsts	50@50½
Dairy	45
Cooking	42@47
Eastern	50
"Butterine"	15@20

Cheese.

California Anchor	18
Northern fresh	16
Eastern singles	17
Imported Swiss	32
Tulare flats	18½
Domestic Swiss	20
Oregon	18

Eggs and Poultry.

Eggs are being received in larger quantities, but the market remains firm at present quotations, which is three cents under last week. This is probably because of increased consumption under lower prices.

Eggs local candled	19½@20
Eggs casec ount	17½
Northern candled	20
Hens per lb	11@12
Young roosters per lb	15
Fryers	18@20
Broilers per lb	21@22
Roasters	15
Old roosters	8
Turkeys	15
Geese	13
Ducks	14
Squabs	1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds	5¾
Prime steers	4½
Heifers	4
Calves per lb	4½@5
Sheep ewes per head	4.75
Lambs per head	3.75@4.25
Wethers	5.50

Potatoes.

Highlands	95@1.05
Early Rose	1.75@2.00
Salinas	1.25@1.50
Sweet potatoes per sack	3.00@3.50
Sweets Northern	3.00@3.25
Oregons	1.50
Idaho	1.25
White Rose	1.50
Watsonvilles	1.10
New potatoes by box	1.25

Onions.

Australian Browns	3.50
Bermudas per crate	2.00@2.50
Oregons	3.50
Minnesota	3.50
Garlic	10
Ohio	3.25
Colorado	3.00

Vegetables.

Artichoke per doz	75@90
do Jerusalem box	75
Asparagus per lb	30@35
Beets per doz	40
Bell peppers per lb	15@18
Beans limas per lb	10@12
Beans green	14@15
Beans Yellow	5@8
Brussels sprouts per lb	9@10
Cabbage sack	25@30
Celery per doz	60
Chili peppers per lb	3@7
Chives per doz	1.25
Cucumbers per doz	70@2.50
Cauliflower	60
Carrots per doz	30
Egg plant	8@10
Green onions doz bunches	20@30
Hubbard squash per lb	1@1½
Letauce per crate	50@75
Mushrooms per basket	1.75
Pie Pumpkins	1½
Peas sugar per lb	6@8
Parsley	30
Parsnips	35@40
Rhubarb per box	1.00@1.25
Radishes per doz	15@20
Salsify	40
Spinach per doz	10@25
Squash box	1.00
Turnips doz bunches	30
Tomatoes per box	1.25@2.00

Citrus Fruits.

Navels fy	1.60@1.75
Navels ch	1.25@1.50
Tangerines	1.50
Culls	40
Grapefruit seedless	2.50@3.00
Grapefruit seedlings	1.75@2.00
Lemons fancy	1.25@1.50
Lemons choice	1.00@1.25

Fresh Fruits.

Bellefleurs	2.00@2.25
Baldwins	1.50@1.75
Pippins 4-tier	1.50@1.75
W W Pearmains	2.00@2.25
Colorado Jonathans	3.00
Cal Ben Davis	1.75@2.00
Guavas	6@8
Loquats per lb	9@10
Winter Nellis per lb	7
Persimmons	5
Raspberries	25
Strawberries	5@11
Extra fancy	15

Dried Fruits.

Apricots	18@22
Evap apples fy per lb	11@12
Figs loose	7
Peaches	11½@12
Pears	16
Nectarines	16
Prunes	3½@5½

Beans Dried.

Limas per ctl	5.25
Pink No 1	3.65
Lady Washington	3.85@3.95
Small White	3.75@3.85
Black Eyes	4.50@5.00
Garvanzas	5.25@5.75
Lentils	12@12½

Nuts.

Almonds per lb	17½
Pecans polished	16@17
Peanuts Virgina	8½
Peanuts California	8½
Walnuts No 1 SS	16
Walnuts No 1 H S	14@15

Honey.

Extracted Water White	7@7¼
Comb W W	11@15

Hay.

Barley No 1	14.00@18.00
Barley No 2	11.00@14.00
Alfalfa northern per ton	15.00
Alfalfa local	15.00@16.00
Plain Oat No 1	16.50
Wheat No 1	17.00
Wheat No 2	14.00

Grain.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl	1.85
Wheat in 100-lb. sacks	1.90
Barley	1.50
Corn Eastern sacked	1.80
White oats	1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn	1.85
Shorts	60@1.65
Bran	1.50
Oil cake meal	2.50
Feed meal	1.90
Rolled barley	1.65

San Francisco Markets

Butter.

SAN FRANCISCO, March 3, 1908.—Only a slight shading in butter price has occured during the past week. The present market is fairly steady, though some sales are made slightly under quotations.

California extras per lb	27
California firsts	26½
California seconds	23
Eastern extras	20
Storage Cal ex	25

Cheese.

California young American fy	13
California flats fy	12
Eastern fy	17½
Oregon fancy	12½

Eggs and Poultry.

Eggs are slightly lower, but market is firm at present quotations.

Fresh ranch eggs	17
Eggs firsts per doz	16½
Eggs second per doz	16
Hens per doz	4.50@6.00
Hens extra	6.00@7.00
Young roosters	6.00@6.50
Old roosters	4.00@4.50
Fryers per doz	5.00@6.00
Broilers per doz	4.00@5.00
Geese per pair	2.00@2.50
Ducks young	4.00@5.00
Turkeys per lb	15@17
Pigeons	1.00@1.25

Live Stock.

Steers No 1	8½@9
Do second quality	7½@8
No. 1 cows and heifers	6½@7
Hogs 80 to 200 lbs	5¾@6
Hogs 200 to 300 lbs	5½
Calves per lb	4@5½
Lambs	6½@7
Wethers No 1	5½@6
Ewes No 1	5@5½

Potatoes.

River Whites	50@75
Oregon Burbanks	75@1.00
Lompocs	1.00@1.25
Early Rose	1.10@1.30
River Reds	1.35@1.40
Salinas Burbanks	75@1.00
Sweets per crate	2.75@2.85

Vegetables.

Artichokes Jerusalem per box	75
Asparagus per lb	20@25
Celery per crate	1.00@1.25
Cucumbers per doz	65@1.50
Chili peppers per lb	4@6
Bell peppers per lb	8@15
Beans Limas	12@15
Egg plant per lb	10@12½
Green peas per lb	6@10
Squash per box	50@1.25
Marrowfat squash per sack	60@75
Mushrooms	75@1.00
Hubbard squash per sack	60@80
Rhubarb per lb	8@10
Tomatoes local	1.25@2.00
String beans	12½
Garlic	7@10

Onions.

Oregon yellow	2.50@3.00
Yellow Danvers	3.00
Reds	2.50@2.65
Eastern	2.00@2.75

Citrus Fruits.

Navels fy	2.50
Navels ch	1.25@2.25
Grapefruit seedless	2.50@3.00
Lemons	1.50@2.50
Limes	3.00@4.00

Fresh Fruits.

Newtons	1.65@2.00
Spitzenberg	1.75@2.00
Pears winter Nellis	2.00@2.50
Pomegranates per box	1.00@2.50
Strawberries per crate	2.50
Aligator pears	1.75@2.00

Dried Fruits.

Apples (evap.)	6½@8
Apricots per lb new	15@19
Figs white	3½@5
Nectarines	10@13
Plums pitted	12@15
Peaches	9@11
Pears	8½@@10½
Prunes 4 size bag basis	3¼@4

Beans Dried.

Limas	4.75@4.90
Pink	3.15@3.25
Small white	3.35@3.50
Large white	3.00@3.10
Lady Washington	3.45@3.50
Black Eyes	3.50@3.75
Red Kidneys	3.25@3.50
Garvanzas	4.00@4.25
Bayo	3.15@3.25
Horse beans	2.25@2.40

Hops.

Hops per lb	4@7
Hops old fancy	1½@2½

Nuts.

Nonpareil	13½@14
Ne Plus Ultra	12½
Walnuts No 1	13@13½
Hardshells	12@12½

Honey.

Clear white comb	16@17
Amber	12@15
Extracted	7½@8
Beeswax No. 1 per lb	26@27
Beeswax No. 2 per lb	23@25

Hay.

Choice wheat hay	15.00@16.50
Good wheat hay	14.00@15.00
Other grades same	11.00@14.00
Wheat & oat	10.00@15.00
Tame oat	10.00@14.50
Wild oat	9.00@12.50
Stock hay	7.50@@9.50
Alfalfa	9.00@13.50
Straw per bale	50@.90

Grain.

Wheat No 1	1.57½1.60
Barley No 1	1.37½@1.40
Corn large yellow	1.60@1.65
Oats white	1.52@1.57½
Oats red	1.70@1.75

Feed Stuff.

Bran per ton	29.00@30.00
Feed cornmeal per ton	35.00@37.00
Cracked corn per ton	36.00@38.00
Rolled barley per ton	30.00@32.50
Oil cake meal per ton	38.50@39.00
Cocoanut caks per ton	26.00@27.00
Middlings	32.00@35.00

Citrus Market

LOS ANGELES, March 4, 1908.—Auction markets are much the same as a week ago, but the Middle Western markets are stronger. This in face of one of the biggest Februarys, so far as quantity of shipments are concerned. The fruit has carried finely and no complaint is made as to decay as yet. This is for two reasons, the cool, favorable season and the further fact that greater care is taken in handling fruit this year than ever before.

Probably no fruit shipping section ever forwarded finer packed fruit than is going out of the citrus packing houses of California this year.

Lemons are slightly weaker owing to heavy receipts of foreigns. Fair prices prevail, however.

Shipments.

Shipments to date are 9972, of which 1467 were lemons. Last year same date 8078, of which 977 were lemons.

NEW YORK CITY, March 2.—Thirty-two cars navels, three cars lemons and one car bloods sold. The market opened steady on navels, but weakened the latter half of the sale, and at the close prices were lower c sizes. Lemons are higher. W unfavorable; raining.

NAVELS—

Carnation Moulton & Gre........
Old Mission C C Chapman.......
Golden Eagle C C Chapman.....
Lionhead I L Lyon & Son........
Mt. Harrison F L Sewell.... ....
West Highland Cleghorn Bros...
La Verne M L Sparks............
Standard M L Sparks.... ....
La Verne T I M L Sparks........
Stanard M L Sparks....... ......
Whittier W F Whittier...... .....
Our Favorite T I Moul & Gre...
Tropical Queen T I Moul & Gre.
Flower Grs Ft Co.... ....
Valle Vista Grs Ft Co...........
Taquitz........ ....
Criterion Penn Ft Co............
Wolf Penn Ft Co......... ....
Orchard Nat Or Co...... ....
Standard Nat Or Co...... ....
Standard Nat Or Co..............
Monogram QC Ft Ex...... ......
Clover Red O G Assn............
Cerrito T I O G C Assn..........
Swastika O G C Assn.............
Broncho West Amer Ft Co.......
Herald West Amer Ft Co........
Crafton Red O G Assn...........
E. Highland AEH Cit Assn.......

LEMONS—

Rialto Girl Gr Ft Co..............
Standard Gr Ft Co......... ......
La Verne M L Sparks...... .....
Independent Cleghorn Bros.......
Golden Riv Ft Ex...... ....
Liberty Loveless Ft Co...... ....
Foxaway........ ....

BLOOD—boxes

Tahquiz ....
La Mesa Riv Ft Ex...............
Golden Rule Riv Ft Ex..........
Squirrel AH Ft Ex...... ....
Iris D M Ft Ex....... ....
Violet D M Ft Ex.... ....

BLOODS—half boxes

Tahquiz ....
Fayett......... ....
A Brand E High Cit Assn.......
Squirrel A H Ft Ex...... ....
Iris D M Ft Ex..................
Violet D M Ft Ex......... ......

TANGERINES—

Lionhead I L Lyon & Son	
Tropical Queen Moul & Gre	
Flower Grs Ft Co	
Blue Seal ACG Ft Ex	2
Bear O K Ft Ex	1

CINCINNATI, March 2.—Weatl cool. Market steady. Five cars so One on track. Florida bhights, $1 @2.20; russets, $2.05@2.20.

NAVELS—

Parrot S A Ft Ex Pom..........
Greyhound S A Ft Ex N Po....

LEMONS—

Pet S A Ft Ex San Di...........
Duck S A F Ft Ex San Di.......
Greyhound S A Ft Ex San Di....
Blue Seal ACG Ft Ex............

ST. LOUIS, March 2.—Weather orable. Market is weak on large size Eight cars sold. Ten on track.

NAVELS—

Golden Rule R F Ft Ex Riv	
Coral S B Ft Ex Yerkes S	
Blossom Red Mut O Co	2.
Cosmos Red Mut O Co	
Pointer ACG Ft Ex Lateen S	2
A One Edmund Peyeke Co	2.
Flamingo Cal Cit U	1

LEMONS—

National E B Leach Chula V	2
Royal Blue Irey Ft Co	2

BOSTON, March 2.—Nineteen c sold. Market is easier. Twenty-c cars on track.

NAVELS—

Laurel Q C Ft Ex Cor	2
Cosmos S BFt Ex YerkesS	2
Quail O K Ft Ex O K	
Overland S B Ft Ex Red Junc	
Brook S B Ft Ex Red Junc	
Alpha Riv Ft Co	2
Lionhead I L Lyon & Sons	
Vista Bonita J A Graham	
Clover Red O G Assn	
Golden Rule Riv Ft Ex Riv	
Cosmos S B Ft Ex Yerkes S	
Lochinvar RH Ft Ex E High	
Rebecca S B Ft Ex Red Junc.	
Orchard Nat O Co	
Elk Riv Ft Co	
Golden Flower R G O Assn	
Rossmoyne E M Ross	

RUBY BLOODS—Halves: Qu Bee, Q. C. F. Ex., Corona, $1.20. R (boxes), $2.05; Laurel (halves), $1 TANGERINES—Halves: Bear, O K F. Ex., $1.95.

LEMONS—

Excellent Santa Paul C F E	
Orchard Run Cleghorn Bros	2
W Highland Cleghorn rBos	2.

CLEVELAND, March 2. Market declining. Weather stormy. El cars sold. Eight on track.

NAVELS—

Royal Knight R H Ft Ex Red	
Puritan SB Ft Ex Rialto	2
Yacht T I S BFt Ex Rialto	2
Carmencita ST Ft Ex Fuller	
Ben Hur RH Ft Ex Red	
YachtSB FT Ex Rialto	

lly-Ho T I S B Ft Ex Rialto	2.30
smos S B Ft Ex Yerkes	2.15
lombo ST Ft Ex Fullerton	2.00
ılden Flower R G O Assn	2.30

GRAPEFRUIT—

ıritan S B Ft Ex Rialto	3.00
ıcht S BFt Ex Rialto	1.70
.lly-Ho S BFt Ex Rialto	2.50

NAVELS—

ıwarden Hawarden Cit Assn	2.15
·ch Hawarden Cit Assn	2.00
ınan	1.90
·lden Orchard Ind Ft Co	2.10
·lden Orcharn Ind Ft Co	2.05

PHILADELPHIA, March 2.—Six rs navels, two seedlings, one mixed r and two cars lemons sold. Weather warm. It is raining. Market is ady. Five thousand boxes of Flor- oranges sold. Market unchanged Floridas.

NAVELS—

ıail O K Ft Ex O K	2.19
ag T I ACG Ft Ex Lateen S	2.62
ınter T I ACG Ft Ex Lateen S	2.16
ral SB Ft Ex Yerkes S	2.15
sta Bonita J A Graham	2.28
andard Altland Ft Co	2.06
.rrot S A Ft Ex Pom	2.30
ınter T I ACG Ft Ex Lateen S	2.26
smos SB Ft Ex YerkesS	2.30
ılden Flower R G O Assn	2.28
·chid Altland Ft Co	2.19

ANGERINES—

ission Bells	2.22

SEEDLINGS—

lssion Bells A BChapman	2.10
ission Memories A BChapman	2.03
lssion Bells A BChapman	2.07
issIon Memories A BChapman	2.01

LEMONS—

ınon S T Ft Ex La Manda	2.23
ssmoyne E M Ross	2.30
·chid Altland Ft Co	2.58

PITTSBURG, March 2.—Market is m on good stock.

NAVELS—

inter T I ACG Ft Ex Lateen S	2.15
olf ST Ft Ex Arroyo P	2.20
osmos S BFt Ex Yerkes S	2.25
lden Rule R F Ex Riv	2.30
olden Flower Red GO Assn	2.35
lossom Red Mut O Co	2.25
unter ACG Ft Ex Lateen S	2.05
onnie ST Ft Ex Arroyo S	2.05
oral S B Ft Ex Yerkes S	2.00
aralimo	2.20
amelia Red Mut O Co	2.35

LEMONS—

ueen Bos & Co Riv C	2.15

NEW YORK, Feb. 28.—Twenty-one avels, one lemon sold. Navels easier nd 5 to 10 cents lower. Lemons easy. Veather clear and favorable.

NAVELS—	Avg.
lta Cresta AH Ft Ex	$2.40
obusta AH Ft Ex	2.20
weetheart High Ft Ex	2.35
agle Highgrove Ft Ex	2.15
a Mesa Riv Ft Ex	2.40
olden Rule Riv Ft Ex	2.25
is DM Ft Ex	2.40
olet DM Ft Ex	2.15
uc Seal ACG Ft Ex	2.40
ed Shield ACG Ft Ex	2.15
een Crown ACG FT Ex	1.85
uth Speich & Co	2.40
avilan Riv Ft Ex	2.10
hambra N Bailey & SonNNNN	2.20
ıail OK Ft Ex	2.20
ncle Sam Riv Ft Ex	2.25
esta Riv Ft Ex	2.20

LEMONS—

Today's sales: Independent, $2.50; ıoice, $2.15; Violet, $2.10; Pat Davies, .10. BLOODS—Golden Rule, $2.60. ANGERINES—Blue Seal, $1.95; Bear, 00; Lionhead, $2.00.

CLEVELAND,, Feb. 28.—Market is eady. Weather cold. Seven cars old. Eight on track.

NAVELS—

ed C Cov Ft Ex Cov	2.00
oehinvar RH Ft Ex Highland	2.35
elt RH Ft Ex High	2.15
oyal Knight RH Ft Ex Red	2.30
ewsboy RH Ft Ex Red	2.05
olden Flower R G O Assn	2.30
oppy Haight-Bothel Ft Co	2.30
tlas Haight-Bothel Ft Co	2.10
amelia Red Mut O G Co	2.30
lossom Red Mut O Co	2.30

LEMONS—

ighlander High Ft G Assn	2.50
wan RH Ft Ex Red Con Ft Co	2.40

CINCINNATI, Feb. 28.—Weather old. Market steady. Five cars sold. hree cars on track. Florida brights, .90@2.00; russets, $2.00@2.15.

NAVELS—

arrott SA Ft Ex Pom	2.30
reyhound SA Ft Ex N Pom	2.15

LEMONS—

et SA Ft Ex San Dimas	2.60
uck SA Ft Ex San Di	2.15
reyhound SA Ft Ex San Di	2.55

PHILADELPHIA, Feb. 28.—Seven ars navels, one car lemons sold. Veather cool, cloudy. Market unchanged. Ten cars Floridas sold; unchanged.

NAVELS—

oyote OK Ft Ex O K	2.09
uall OK FT Ex O K	2.17

Coral SB Ft Ex Yerkes S	2.12
Golden Scepter Rialto O Co	2.75
Redskin Rialto O Co	2.05
Parrot SA Ft Ex Pom	2.26
Cosmos SB Ft Ex Yerkes S	2.30
Camellia Red M O Co	2.50
Rossmoyne E M Ross	2.20

LEMONS—

Watchumma T C C Ft Ex Lem C	2.35
Tulare T C C Ft Ex Lem Cove	2.08

ST. LOUIS, Feb. 28.—Weather cool. Market weak on large sizes. Six cars sold. Eight on track.

NAVELS—

Pride of Cal. Riv Ft Ex	2.10
Searchlight SS Ft Ex Orange	2.05
Belt RH Ft Ex E High	2.20
Corona Queen Spence Ft Co	2.10
Yacht S BFt Ex Rialto	2.20
Sunset S S Ft Ex Orange	1.90
Conqueror Independent Ft Co	2.15
Our Popular F H Speich & Co	1.95

LEMONS—

Yacht S B Ft Ex Rialto	2.25

SEEDLINGS—

Searchlight S S Ft Ex	1.85

PITTSBURG, Feb. 28.—Weather cool. Market is firm on good stock.

NAVELS—

Quail OK Ft Ex	1.70
Golden Flower Red G O Assn	2.30
Coyote O K Ft Ex	2.10

BOSTON, Feb. 28.—Fifteen cars sold. Weather favorable. Market is steady. Eighteen cars on track.

NAVELS—

Arrowhead S B Ft Ex Highland	1.65
Owl OK Ft Ex	1.70
Queen Bee QC Ft Ex Cor	2.30
Cosmos RH Ft Ex Yerkes S	2.25
Elephant Rubidoux Ft Co	2.40
Niagara Stewart Ft Co	2.25
W. Highland Cleghorn rBos	2.20
W. Highland Cleghorn Bros	1.95
Lark OK Ft Ex	1.85
Laurel QC Ft Ex Cor	2.35
Pine Cone SB Ft Ex High	2.45
Lochinvar RH Ft Ex E High	2.30
A Brand E High Cit Assn	2.40
Slover Mt. Grs Ft Co	2.25
Native Sutherland Ft Co	1.95

BLOODS—

Old Glory (half box) Flagler Ft Co	1.35
Silence (half box) Flagler Ft Co	1.25

LEMONS—

Canary	2.30
Palm Tree AH Ft Ex Prenda	2.05
Silence Flagler Ft Co	2.40

THE THOMPSON ALFALFA AND GRASS SEED SOWER.

Everybody who has alfalfa or other grass seed to sow ought to be interested in the old reliable Thompson Grass Seeder. It is now over 35 years old. There are over 200,000 in use and it is used all over the world.

Its advantages for sowing alfalfa seed are just beginning to be rightly appreciated. That acounts in a measure, at least, for its recent large increase in sales.

The qualities which are making the Thompson Seeder so popular with alfalfa growers, are the same that years ago gave it such a general use for sowing all kinds of grass seeds.

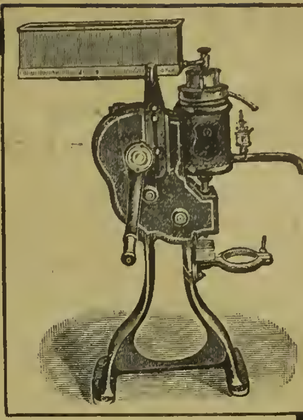
The manufacturers, O. E. Thompson & Sons, Ypsilanti, Mich., have recently gotten out a most valuable booklet on alfalfa. It is not large, but it covers the whole subject. If you do not already know all about alfalfa you can get it in this book. It is an atractive, readable form and the information it gives about alfalfa can be relied upon. The booklet is for distribution. If you are interested in alfalfa growing, write to the manufacturers at the above address and have them send you a copy which they will do if you mention the Cultivator.

PROTECTS THE TREES.

"TREE TANGLEFOOT" IS AN EFFECTBAR TO INSECT PESTS.

A sticky preparation applied directlyl to the bark of trees, and known as "Tree Tanglefoot," has been used very extensively with great success in New England against the gypsy and browntail moths, and in the California prune orchards against the canker worm. It will not injure trees, and is applied to make a band five inches wide and one-sixteenth of an inch thick. No climbing insect pest can cross this. It remains sticky much longer than any other known substance. All who wish to preserve fruit or shade trees will find that the slight expense of "Tree Tangelfoot" bears no comparison to the benefit it will confer. It costs only 25 cents per pound, much less in greater quantities, and should be applied when the caterpillars begin to crawl. Any one can apply it, as no apparatus is required. If you are unable to secure a supply of Tree Tanglefoot from your seed dealer, write the manufacturers, the O. & W. Thum Company, Grand Rapids, Mich.

Immense quantities of grain are being removed from Lewiston, Idaho, toward the coast shipping points. Over one million bushels of grain have been stored there.



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UNITED STATES CREAM SEPARATORS FOR 1908

Have all the qualities that have made the U. S. the standard for many years past, for efficiency, durability and reliability, and have in addition

New and Important Improvements

both in construction and efficiency—increasing their already unequaled ability to handle milk most easily, quickly, profitably. Remember: you are buying a cream separator first of all to get all the cream—all the money—out of your milk and the U. S. Cream Separator continues to

Hold World's Record for Clean Skimming

for fifty consecutive runs, in competition with the leading makes of separators of the world. This record has never been equaled.

Furthermore: the past sixteen years have conclusively demonstrated the durability and the unequaled reliability of the U. S. Dairymen to-day buy the U. S. because they know it will do for them the best work for the longest time. Competing separators "claim" anything and everything, truthful and otherwise, but the real superiority of the United States Cream Separator has been so thoroughly established in every way, that no one can successfully dispute it. This is so widely known and acknowledged nowadays that dairymen in all parts of the country are rapidly exchanging their old style, unsatisfactory, "cheap" and unreliable separators for the clean-skimming, STANDARD and reliable U. S.

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Distributing warehouses at: Auburn, Me., Buffalo, N. Y., Toledo, O., Chicago, Ill., La Crosse, Wis., Minneapolis, Minn., Portland, Ore., Kansas City, Mo., Omaha, Neb., Salt Lake City, Utah, Denver, Colo., San Francisco, Cal., Spokane, Wash., Montreal and Sherbrooke, Quebec, Winnipeg, Man., Hamilton, Ont., Calgary, Alta.

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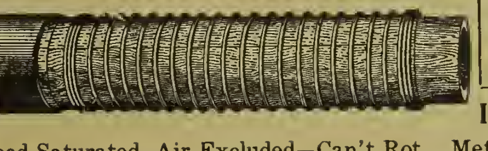
Prompt Delivery Assured California Customers from Stockton warehouse. No delays. Address all letters to Bellows Falls, Vt.



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The heaviest adobe, the most corrosive alkali, the lightest sand; all alike where Wood Pipe is used.

It Resists Them All

Wood Saturated. Air Excluded—Can't Rot. Metal in Bulk, Galvanized, Asphalted—Can't Rust. High factor of Safety in Binding—Can't Leak.

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For excellent service, beautiful scenery, through sleeping cars from Chicago, St. Louis, St. Paul, Kansas City, Omaha and Denver via Salt Lake City and the Short Line to Los Angeles your friends should travel

VIA SALT LAKE ROUTE

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NEW YORK IS THE PLACE FOR IT!

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No stopping to pump air.

You will get the regular **LENOX IMPROVED SPRAYER** for $3, 2 for $5, by sending for it to New York. **BEATS THEM ALL. ALL IMPROVEMENTS.** It will spray trees **20 FT. HIGH**, holds 24 quarts, built of Apollo galvanized iron. Never rusts, never leaks; forcible and fine spray. **DON'T TALK LONG.** It will do your **STRAWBERRIES, VINEYARD, GRAPES** and all your small fruits, **POTATOES, TOMATOES, CABBAGE** and everything on your place. **WHITEWASHING** the hen house, cow stables, etc. A well-built machine, with care and if not abused, we will warrant it good for 12 years. Turn nozzle up, spray will reach all insects upon the ceilings in stables, breeding nests, in poultry houses, in all crevices and cracks, particularly **THE UNDER SIDE OF THE ROOSTS**, and between the **HORNS OF THE COW**, where most of the trouble comes from.

NO AIR PUMP BUSINESS. So easy **A LADY CAN USE IT. NO STOPPING TO PUMP AIR** or to **SWEAR.** Compress the bulb, you get your spray; stop your pressure and you stop the spray, on the principle of an engine **PLUNGER** pumping water, only much easier. By pressing and releasing the bulb, spray continuously reaches top of tree without artificial power. You can put your hand inside of sprayer to wash it out as easily as you would a milk can.

NO SWEAR

$3.00
2 for $5
Just Now!

Better Milk and More of it.

LOTS OF TIMES you can use a knapsack sprayer in places where you can not a barrel pump. While talking or hitching up the horses the work is done. Handy at any place. Even if you have a barrel pump you will use this one anyhow. Lots of times a patch off yonder ought to be sprayed, but won't pay to hitch up the horses. If this machine is handy John will sling it on his back and the spraying will be done while you are thinking. Send for our circular. YOU SHOULD KNOW ALL ABOUT IT. Or perfectly safe to send for the sprayer direct without waiting for the circular. A small can "Sure Destruction to San Jose Scale" sent free with each sprayer, if ordered at once.

A RECIPE issued by a chemist, how to prepare a sanitary lime milk for a whitewash that will stick and stay on the walls of the hen house, trees or stable walls, making insect breeding impossible. Anyone can make it cheaply and quickly wherever located. This recipe will be sent **complimentary with each sprayer, if ordered immediately.**

REMEMBER this is the regular $5 Sprayer we are talking about, but we made too many; we would rather sell at $3 than wait until next season to get $5. **JUST NOW** you can have **ONE FOR $3** or **TWO FOR $5.** Order before they are gone. Time counts. **NO LENGTHY LETTERS** necessary. We will know what you want—that you want one of these **LENOX IMPROVED SPRAYERS**, perhaps a couple of them, and that you want them quick, too; but give us your name and address very plainly. **PROMPT SHIPMENT.** Twenty-four hours delivery. **EXPRESS RATES FROM NEW YORK LOWER THAN FROM ANY OTHER POINT.** Newspaper people have known us for over 20 years. We are old advertisers. What we say **WE DO, we DO-DO.** You can discount all our promises **AT YOUR BANK.**

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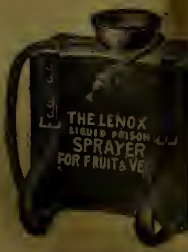
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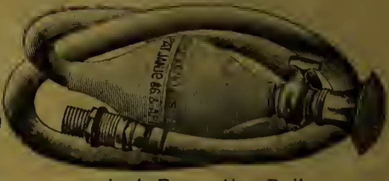

2 1-2 Feet Long

Just Press the Bulb.

Will throw a spray on good sized trees. Press you thumb upon the bulb, you get your spray, stop your pre sure and you stop the spray. Has a strainer in th threaded end which screws into the barrel; best rubbe hose, brass valves front and rear, operates by vacuum the same as a pump, only much easier. Can be attach to a barrel or milk can, or to any kind of tank, a five o ten gal. keg, kerosene or whisky barrel. Bore a 3-4 inc hole and screw in the nipple, it will not leak. For po tatoes, cabbage, grape vines and all low stuff, it will d the work of a $10 sprayer and much better.

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Press the Bulb, That's All.

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More Eggs.

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GROW YOUR OWN VEGETABLES

California Cultivator

s Angeles March 12, 1908 San Francisco

A Field of Calla Lilies

A Beautiful Flower, Hardy Enough for Most Sections of California Desirable for Hedge or Border of Grounds

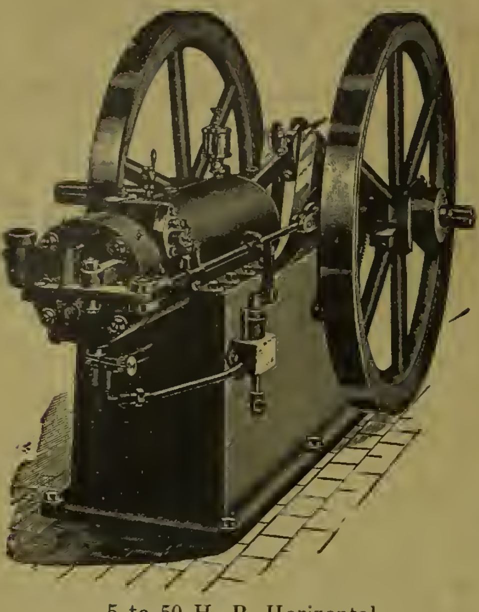
NE OF the most successful flowers for California is the calla lily. Of course, in the hotter interior valleys its growth is attended with more difficulty, but with reasonable care it give satisfaction in nearly all sections. Of course it will stand ittle or no frost, so that slight protection is necessary when ipping weather comes. Near the coast at Santa Barbara we seen it growing in large grounds along a canyon stream as ally as the wild flowers and with no more apparent care. At it has been cultivatd in large fields as a commercial venture, as not proved a great success financially. But for its mass oom and the certainty of its returns, it is one of our best for home grounds. It makes a good hedge or dividing line.

The heaviest bloom comes usually about Easter time and wagon loads, almost, are sometimes used. We once saw 1330 calla blossoms about a church altar at Pomona and it was, indeed, a beautiful sight.

Give the calla not too strong sun, no frost, loose, rich soil, plenty of moisture and you will be astonished at its mass of bloom. It will bloom the year through or may, in the warmer sections, be allowed to rest through the summer months.

Remove from ground and divide every two or three years, as it becomes too matted if allowed to remain in one location too long.

STOVER !!!



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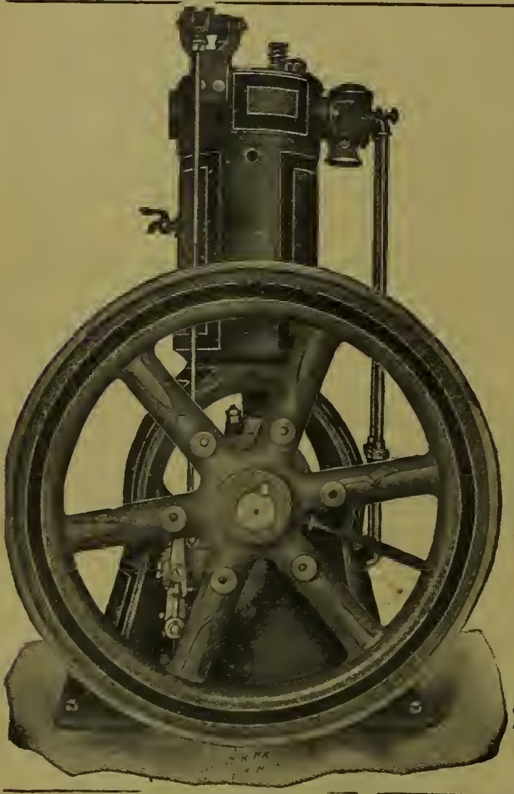

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3-H. P., $100
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Norton Engine & Power Co.

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NEW POMONA DOUBLE PLUNGER DEEP WELL PUMP HEAD

for raising water for all purposes. It is highly efficient, thoroughly reliable and the smoothest running deep well pump made. It is built in three sizes from 10 to 40 Horse Power. Send for new catalog to

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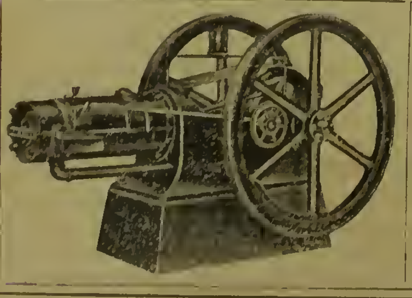

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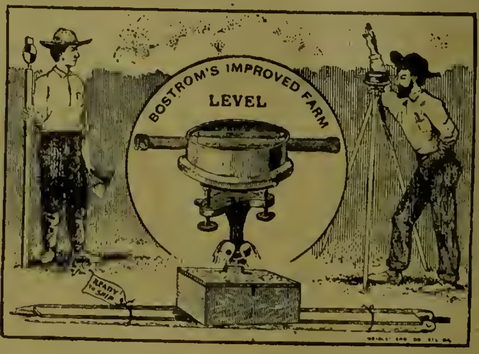

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Alhambra Addition Water Co
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Los Angeles, Cal., Aug. 10, 19

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Harris Air Pump Co.,
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Dear Sir:

The test made on our well No. 6 with the Harris Pump was very
tory, showing a substantial increase in amount of water delivered over the
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Yours truly, G. C. Ward, Asst-Gen. Manager.

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its Mechanical Features."

Federal Gas Engine Co.

567 Mateo St., Los Angeles, Cl

California Cultivator

XXX—No. 11 Los Angeles, California, Thursday, March 12, 1908 Subscription $1 a Year

he Econmic Value of the Home Garden

From His Ripe Experience in Vegetable Gardening, Q. A. Lobingier, of San Gabriel, Gives a Valuable Fund of Information. The Home Garden is Both a Luxury and an Economy.

OMPARATIVELY few people realize the value that is attached to a well kept home garden. The word value is not to be con- d alone in dollars and cents, but should in- the health that is promoted by the liberal vegetables and fruits, the comfort and sat- ion of having these things fresh and crisp ean from your own grounds, and the refining nobling influences erected upon the lines of whose homes are embellished with flowers wns and ornamental trees.

Grown Best.

esume the most frequent excuse given in rnia for not having a good garden is, "I can ly vegetables and fruits cheaper than I can them." Possibly true in some cases, es- ly if confined to the cost in money. But ou buy them as good? People who have once upplies from a well kept home garden are satisfied with the stale and wilted articles able at the grocery or from the street wagon. is no comparison between the vegetables ruits gathered fresh from the home grounds hose that have been gathered from 24 to 60 and exposed to air and sun and dirt and handling before reaching the consumer. h many vegetables and fruits the process of begins as soon os they are taken from the d. This is particularly true of peas, beans, es and celery and almost all of the berries. important, then, to have them fresh.

ven a Lettuce Bed.

s not expected every family can have a gar- specially those who live in the city or town. mazing thing is that so few of those who do ve in town, have not even a lettuce bed. It is ishing how small an area will supply the fam- ble, if intelligently and industrially worked. not the area, but the way you handle it, that s. A story comes down to us from the h that illustrates this question of intensive ning.

renchman had a vineyard of four acres afforded him a stated income, and on the age of his oldest daughter he gave her half neyard as her dowry. Continuing to put the labor and thoughts to the care of his remain- vo acres, he found his income precisely as it een from the original four acres. Later his second daughter married he gave her the f his two acres as her dowry, and continued to put the same care on his remaining one acre that he had used on the original four, with the result that his income was undiminished. Doubtless there is a limit to this process, but I confess that the longer I continue in this work the more difficult I find to say just at what point the limit shall be placed.

Don't Know How.

Many people are deterred from an effort to have a good home garden because of a lack of knowledge of gardening operations. The modern seed catalogue from our best seedsmen are to be had for the asking and they are full of information for the novice. Many of our large seed houses issue leaflets giving special information relative to growing the different kinds of vegetables and some of the fruits, so that if one really desires to make a beginning they can get instruction that will enable them to make a fair start. The work is full of interest, that, if followed with enthusiasm, is simply without a limit, giving play to the intellectual faculties as no other occupation.

Give the Boys and Girls a Garden.

Encourage the boys and girls in this work by pay or prizes or any method you may deem best, and see what a vast amount of good it will do for them, and you. Give them a garden space protected from dogs and chickens, and not too close to large trees, and arrange for irrigation. See that they have suitable tools. If the birds are troublesome, set up a couple of boards eight inches wide and cover with cheese cloth or wire netting with three-fourths-inch mesh. A couple of hundred strawberry plants treated this way would give you fresh berries almost the entire summer. Have a garden, even if it is but a letuce bed.

Always Have Lettuce.

Lettuce should be on the table at least once a day, every day in the year. No relish is more wholesome or beneficial to health than lettuce, especially the type known as butterhead. The California cream butter is a variety of surpassing excellence when well grown, and so crisp and tender and free from bitterness that it can be eaten like celery. While all varieties are more or less difficult to grow in August and September, if the soil be shadowed by muslin placed five or six feet above the ground, it can be grown even in the hottest weather.

Many a neglected back yard could be made a place restful to the eye and valuable to the family by using it for a garden. Many of us have read of the old darkey who stated "he allus sized up de religion ob a family by de condition o de back yawd." He was not far wrong, and we may all be justified in judging the charcater of the people by the outlook from the back door.

Use the Back Yard.

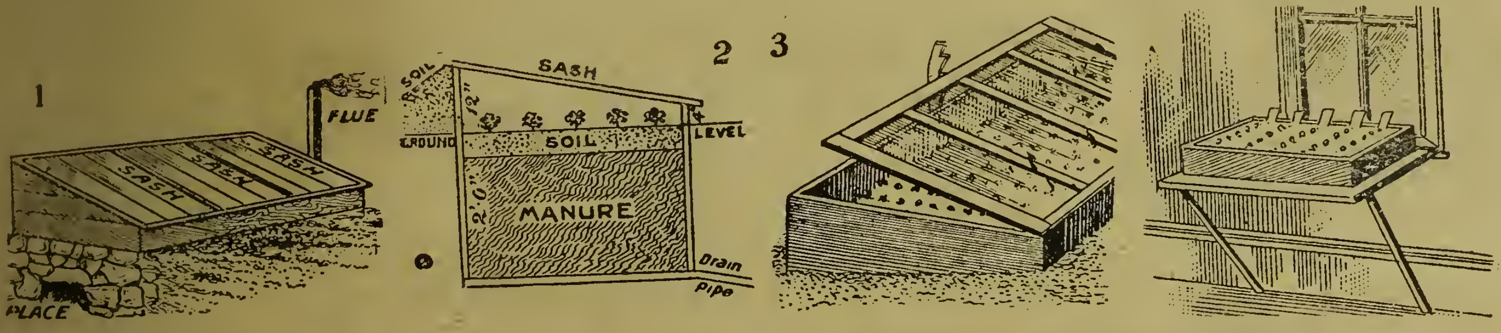
Hundreds of back yards in town or city, that are now not only unproductive, but a positive disgrace to the people who control them, could be made, with comparatively little labor, to produce an abundant supply of grapes, berries and tomatoes, thus giving profitable return for the labor, to say nothing of the refining influence always exerted over people whose suroundings are a credit instead of a shame. If this view is correct in relation to the village or town lot, what shall be said of the ranch homes whose inmates comprise by far the larger number of the Cultivator's readers?

The garden here should hold a larger and more comprehensive place in our thoughts and work. Even on a ranch of but five acres, one acre is not too much to set aside for the home grounds. Wisely planned this will afford space for buildings, including a place for poultry and fruit and vegetables as well as lawns and flowers and ornamental trees. Let those who think this is too much to spare for this purpose, give a little better care to the remainder of the ranch, and they can soon make good any supposed loss. The family in the country home is entitled to the very best the earth affords—then why not have it? It is possible here in California. With our matchless climate we can have a greater variety than can be grown anywhere else, if we will but plan and work for it.

Uncle John's Farm.

What a glorious thing it would be if all who live in country homes could give to their children, at least as a partial heritage, such tender and precious memories for their old age as Mark Twain expresses in his Autobiography, in speaking of his Uncle John's farm, where he spent two or three months every year during his boyhood. "It was a heavenly place for a boy, that farm of my Uncle John's. The house was a double log one, with a spacious floor (roofed in) connecting it with the kitchen. In the summer the table was set in the midle of that shady and breezy floor, and the sumptuous meals—well it makes me cry

Continued on Page 298.



Even though we have the best climate on earth, the early spring months are l, especially at night, so that we need help in forwarding the more tender vegeles The sketches herewith describes better than words, some of these helps. o. 1 illustrates a hotbed heated with fuel. While this method is not often orted to by farmers or fruit growers, it is valuable to the market gardener, and flues can be made of stone or brick or terra cotta pipe. Difficulty with the ft can be overcome by placing an incubator lamp under the chimney elbow at end of the structure. This will heat the elbow and pipe so that a column of air will rise in the chimney and create a good draft. I once had three green- ses each 100 feet long heated by brick flues. There was a furnace for each side house and the flue passing from the furnace to the extreme end of the e was in each case returned through the middle house to the chimney, which s built directly on top of the furnace. This was possible because the furnace was securely arched over and the whole being made solid enough to support the chimney, which was 36 feet high. The hot air from the arch of the furnace passed directly up the chimney, creating a draft so strong that tender plants were safe at the extreme end of the houses when the mercury was 10 degrees below zero outside. The suggestion of the lamp is precisely the same principle applied on a smaller scale.

No. 2 shows a hotbed heated with horse manure. Two feet in depth would be sufficient for the manure in this climate.

No. 3 shows how the sashes should be placed over the hotbed or as they should be in an ordinary old frame, which is simply a wooden frame covered with glazed sashes, placed over good garden soil without artificial heat.

No. 4 is a suggestion for a sunny window, that can be made to serve a good purpose in the starting of many tender plants.

PEAR AND APPLE BLIGHT

We Can Cure it

Our Work has Extended Over a Period of Three Years
Process and Formula Patented
Address Correspondence to
VACAVILLE, - CALIFORNIA.
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Thousands of dollars saved by farmers by patronizing us. 50,000 Lob Ingir Smyrna Fig trees, 4 to 6 ft. in lots of 100 at $12.50; 500 and up at $100.00 per 1000.

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Now is the Time to Plant

Sweet Corn—Oregon Evergreen is the best
Musk Melons—Gautier's Pineapple, Burrell's Gem, J & M Triumph are the best.
Water Melon—Chilian, Philippina, Angelena, are the best.
Cucumber—Long White Spine, is the best.
Field Corn—King of the Earlies, Early Mastedon, Iowa Silver Mine.

For these varieties see

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Dry Farming

Mr. H. L. Musser, the writer of this article, is giving his experience handling of vegetables and small farm crops without irrigation. He also r the success of others in this kind of farming, but his own experience may as reader that whatever he advises in this article is authentic. —Ed.

MR. CAMPBELL has now studied dry farming until it has become not only an exact science but a practical and dependable fact. It is simply a question of the thorough working of the soil, according to the Campbell Method. Mr. Campbell says: "It is more important than the rainfall. I cannot tell you why, but after a certain amount of rain has fallen and penetrated a certain distance into the soil, each particle of earth absorbs its share of the water until the entire rainfall has been absorbed. If we can hold this water in the soil during the summer season a chemical action will follow, which produces nitrates and generates bacteria or nitrogen in the soil."

So far Mr. Campbell's teachings apply only to localities where colder winters prevail. We will c the same method to our Ca climate and conditions. To farming by the Campbell here: Plow as early [illegible] the the condition of the soil will and as soon as possible afte ing harrow to pulverize and le surface; follow the harrow w sub-surface packer to close u air cavities left by the plow t the surface, as they are lik cause the soil to harden, an would retard the growth of any coming in touch with it.

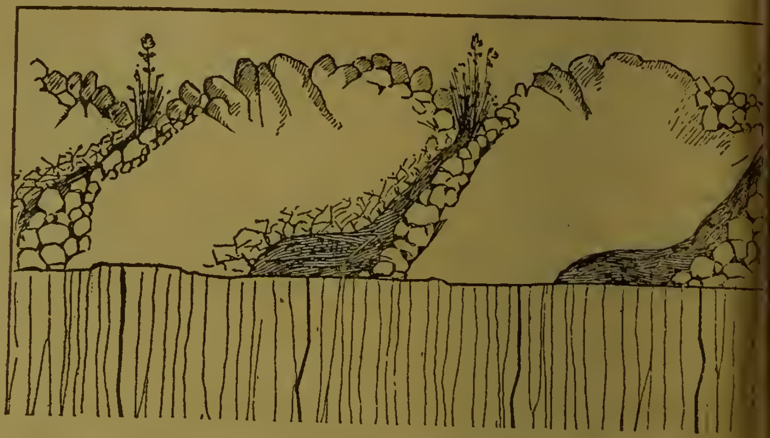


FIG. 1 AFTER PLOWING AND BEFORE USING PACKER.

Now, with a good depth of furrow-slice nicely laid over, we come to a and condition of soil tillage that has baffled many a progressive farmer caused a loss of millions of dollars, and that is the loose condition in the bott of the furrow, as shown in Figure 1.

Figure 1 represents a cross-section of the furrows as the plow leaves th Notice particularly the stubble and weeds, also the loose, lumpy condition tween each furrow and under the right-hand edge of each. This condition the bottom is rarely changed with the ordinary methods of tillage. The dr ging, which is usually done crosswise of the furrow, simply draws the soil fr the higher point into the low places between the furrows, and scarcely affe the bottom at all. Right here is one of the most serious difficulties the far er has to contend with, because it means dollars right out of his pocket.

Ready for Rain and Seed.

The soil is now in the best tion to receive the rainfall. A as possible after each rain, p ize the surface over and acros a disk harrow; a 14-inch dis the best work.

Your soil is now ready to re any seed that is seasonable. I November, December, Janua February, plant according t mean temperature of your lo oats, wheat, barley, alfalfa, fenugreek, burr clover, any grain or fodder crop; or of tables plant Wonderful lettuce toes, transplant onions, cabba cauliflower; sow turnips, beet rots, radishes, kohlrabi, pea kindred hardy vegetables.

In February bed out swe tatoes for plants, sow tomat in hot beds.

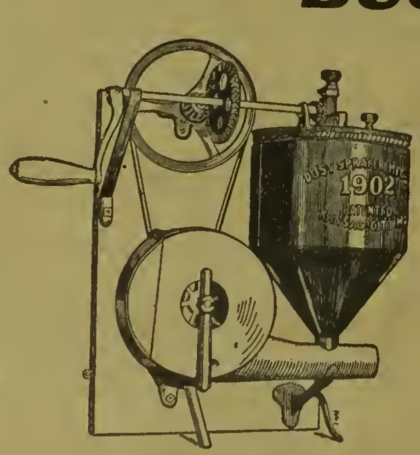
In March continue to harr soil and plant peas, the mor varieties of beans, corn, cu cantaloupe, potatoes, squa onion seed for fall crop.

In April harrow again and watermelons, cantaloupes, bers, pumpkins, squash, cor toes, millet, all kinds of fodd all kinds of beans, Iceberg okra, Roselle and Summer spinach. Transplant sweet p and tomatoes.

Now Harrow Some More.

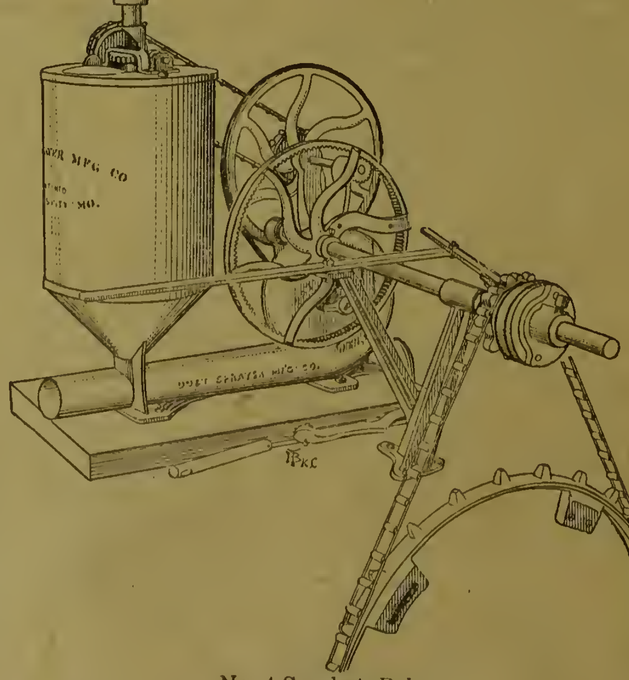
May—Harrow again and pl watermelons, cantaloupes, and th the month to plant all varieti casabas and the Santa Claus m and grow them, if possible, with irrigation, and you can do this if soil has been properly cared f Also plant okra, squash, p

DUST SPRAYERS



"1902" Portable

Dust Spraying by Grape and Fruit Growers has met with great success. It is the practical and labor-saving method of applying insecticide and fungicide. Send for catalog and California testimonials from Grape, Prune, Almond, Apple and Orange Growers. Five sizes. Hand, sprocket and engine drive.



No. 4 Sproket Driven

BAKER & HAMILTON
SAN FRANCISCO SACRAMENTO LOS ANGELES

:orn and sweet corn, beans of variety. But the market gar- should plant the stringless pod, Kentucky Wonder, the Wax and Refugee. Trans- stone tomatoes.

e—Harrow again. Plant casa- fodder crops, and according to locality, plant black eye beans. is the time for cutting barley oats, and this is an important to give special attention to the According to Mr. Campbell, the harrow should follow the har- r, and before the hot sun has time to bake the soil that has shaded by the growing crop harrow will pulverize the sur- this will retain the moisture the ground will remain mellow n good condition to plow at any besides, the pulverized sur- allows the air to penetrate, and s as beneficial as a fertilizer.

s Been Done.

m now until the rain falls the

"he farmed his crop before he put the seed in the ground, after which there was little work required." Mr. Rule also told me that many a piece of good land was ruined by injudicious irrigation. He pointed out such a piece to me and indeed it seemed (as he expressed it) "dead."

Nothing but a year of Campbell's method of cultivation can redeem such a piece of "dead" land.

The following are a few crops more suitable for dry farming than others: With the rainy season for a start all kinds of grain will mature a good crop under the Campbell method. On the Denker ranch the Campbell method was unwitingly applied to growing lima beans.

But from the first of April until June 1st you can safely plant all kinds of vine seeds, watermelons, cantaloupes, pumpkins and squash and casabas in particular. Millet, sorghum and fodder corn will surely yield a good crop, as was proven dur-

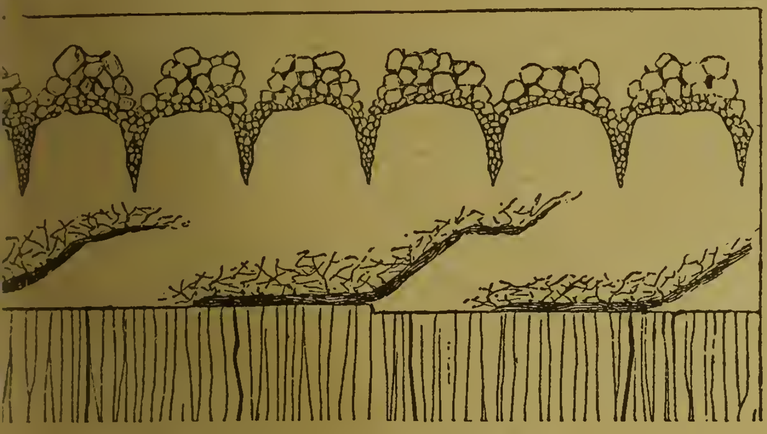


FIG. 2. AFTER USING THE PACKER.

The most important part of this soil tillage or preparation, is a thoroughly ned and well firmed stratum just beneath the surface soil, as shown in Figure

Figure 2 shows a cross-section of the same furrow as in Figure 1, after the ub-Surface Packer has been used. This has resulted in completely pulveriz- ig al lumps and clods in the bottom, as well as pressing the weeds, stubble nd manure into a thin and compact body, with soil closely firmed about it. ow, instead of this matter acting as air-duct and conveying a volume of air nderneath the plowed soil, and not only drying out all the moisture, but cutting f all possibility of supplying the plant by capillary attraction with water om below, you have this vegetable matter in the best possible condition for pid decomposition, as moisture will immediately gather in this firmed soil ound this matter. As air reaches it easily through the pores of the soil, and soon as the temperature rises to a sufficient degree from the heat of the sun, e conditions are perfect, and from this decomposition comes the most valuable ant food, nitrogen—valuable because it is hardest to get under ordinary conditions.

farmer can plant no more, but hould plow and pulverize his , prepare the soil to receive and the rainfall.

doubt many will say it is ab- to plant as I have outlined But it is just what has been by Mr. Rule on his farm first ell, from 1895 to 1902, and since on his dry farm near Anaheim.

. one twenty-acre tract in 1906 irst grew a crop of Early Rose toes, and afterward a good aver- crop of watermelons, musk- ns, casabas, sweet corn and t potatoes, and in 1907, on the e tract, he grew a crop of musk- ns, sweet potatoes, watermelons, atoes, onions and garlic. The ns were the White Bermuda. planted the seed in February and the crop in June. There is ab- tely no water available to this t. Mr. Rule knew nothing of Campbell system, but he said

ing the dry season of 1897 to 1900, as many dairymen were thus enabled to exist.

"Dry Farmer" Will Answer in Cultivator.

Dry farming is so applicable to Southern California, and a knowledge of its principles are of such great value to the large ranches in particular, that it is well worth their while to give it a little study. The writer offers to extend any aid possible by replying to inquiries on the subject or concerning any particular crop.

Address "Dry Farmer,"
California Cultivator,
Los Angeles, Cal.

* * *

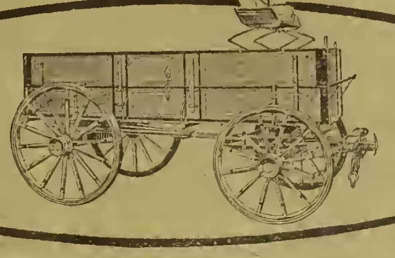
A Planting Calendar.

In the foregoing lines, having outlined a rotation of crops from December until June, the following is a continuation that could be safely followed throughout the year with proper irrigation. It is this late planting that puzzles the new man from the East:

June—Plant any kind of vine seeds, corn and beans, particularly the Kentucky Wonder Wax beans, because that variety does not rust. Plant potatoes for fall crop.

July—Plant peas, cauliflower, cabbage and new Queen onion seed. Transplant stone tomatoes and early cauliflower. In Imperial and Coachella valleys plant Mexican June corn

Continued on Page 294.



THREE HIGH CLASS FARM WAGONS

A FARM wagon has much hard work to do. It must haul heavy loads, travel over rough roads and be out in all kinds of weather. When you buy a farm wagon you want to get many years' service from it.

You will not be disappointed if you buy any one of the three wagons described below.

The 63-Year-Old Weber

The King of all farm wagons. Only the very best and most thoroughly seasoned wood is used; ironed to make a wagon that lasts a lifetime. Light running, convenient and a wagon of fine appearance.

The Popular Columbus

Built in a factory where most exacting conditions are enforced. Air seasoned wood stock, ironing which gives great strength and durability, workmanship by thorough mechanics and every part thoroughly tested.

New Bettendorf Steel Gear Wagon

Front and rear gears made of steel. Parts riveted together, not bolted. A wagon that is proof against breakdowns. Nothing can work loose or rattle, and there can be no warping, drying apart, shrinking or rotting.

You should remember above everything else that a cheap, poorly constructed wagon is dear at any price.

Before you buy any wagon call on the International local agents and learn all the superior points of the Weber, Columbus and New Bettendorf wagons. They will show you the wagons and hand you printed matter giving all particulars. Or if you prefer write nearest branch house for full information.

WESTERN GENERAL AGENCIES: Denver, Colo., Portland, Ore., Salt Lake City, Utah, Helena, Mont., Spokane, Wash., San Francisco, Cal.

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Tim Carroll, Proprietor — Anaheim, Orange Co., Cal.

Washingtonia Robusta and Phoenix Canariensis Palms, any size from 1 to 8 feet, in large quantities.

Street and ornamental trees; Cypress and Guavas; Blue, Sugar, Rudis, Diversicolor, Robusta Tereticornis and Red Gums.

All eucalyptus and Cypress taken up with my patent transplanter, with a ball of earth around the roots and placed in rows in flats with sand sprinkled between for shipment.

Prices on application.

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WALNUT TREES

Having about six thousand Walnut trees that have to be moved on account of close of lease, I will make special prices on them for the next thirty days. These trees are two and three-year-old Santa Barbara soft shell variety, stocky and well rooted, running from four to ten feet in height. Seed selected from one of the best orchards in Orange county. A rare opportunity to get good trees at right prices.

Geo. B. WARNER, Nurseryman
Sunset Phone Red 92 — Santa Ana, Cal.

Berry Plants

Himalaya and Crandall Blackberries, Burbank's Phenomenal and Loganberries, and Gardena Dewberries. For prices and information address,

A. E. Johnson & Sons
San Gabriel, Cal.

Here's a Chance for All

The all around Tilton
Apricot at special rates.

Hanford Nursery, Hanford, Kings Co., Cal.

Crimson Winter Rhubarb and Berry Plants Our Specialty

LEMON, ORANGE AND GRAPE FRUIT as well as full line other fruits. 3,000 Valencia, choice trees, $60.00 per 100. Winter Rhubarb, pedigree plants. $1.50 per dozen, $6 per 100, $40 per 1000.

J. B Wagner

The Berry and Rhubarb Specialist — Pasadena, California

Catalogue 1908
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The Most Complete Assortment of Flowering, Bedding and Decorative Plants on the coast.

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Nurserymen

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Sales Department—Northwest Corner Ninth and Olive Streets, Los Angeles, Cal.
We devote ten of our thirty-five Acres to Rose Culture.

CITRUS FRUITS

(Oranges, Lemons, Limes, Grape Fruits, etc.) must be of good size or they fail to satisfy the market. Says an authority on this subject: "An orange that weighs a pound would sell in New York for a dime. When it takes six to weigh a pound they are worthless."

You can insure large growth by fertilizing with

Nitrate of Soda

It is the **Standard Ammoniate,** and it is the cheapest. Unlike any other ammoniate, no intervening process is necessary before the plant can take it up as food.

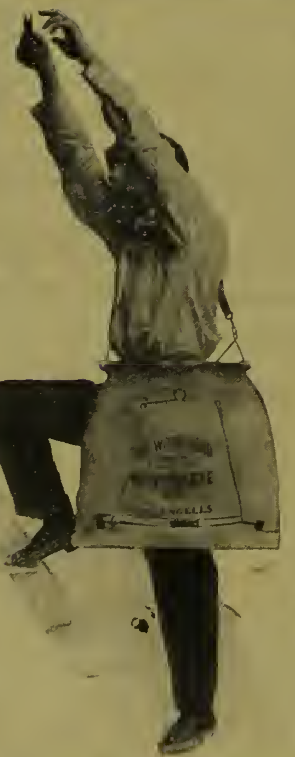
Wonderful results have been obtained in Florida by fertilizing during the cold season.

Directions for successful Citrus Fruit growing will be sent free upon request to all who apply. "Food for Plants," a 237-page book of useful information, will be sent free to farmers while the edition lasts, if paper is mentioned in which this advertisement is seen.

Send your name and complete address on post card.

WILLIAM S. MYERS, Director, John Street and 71 Nassau, New York

THE WM H. HOEGEE Co
TENT MAKERS LOS ANGELES



Wish to call attention to the fact that under their big roof are manufactured the Woodward also the Wilson Fruit Picking Bags. Articles to be found in every up-to-date orchard and for sale by every Wise Dealer in the land. If your Dealer is Not Wise, send to us for our Picking Bag Catalogue; it will be sent postpaid, and with pleasure.

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800 slightly used tents, all sizes, for sale cheap.

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When writing advertisers, mention Cultivator.

With the Citrus Growe

STOCK FOR ORANGES.

THERE has been no definite settlement of the question of stocks for orange trees under various conditions of soil and climate, though there have been some definite results observed. Different stocks have their advocates as do all types of things with which we mortals deal. While the sweet stock is the most widely planted, it has weaknesses that render it undesirable in many locations. Lands that are not well drained should never be planted to sweet stock, as the variety is apt to become diseased if the soil for any reason gets out of order. With the exception of pomelo, it forces the rankest growth of top.

Florida sour stock is one of the most disease-resistant citrus stocks that we have. While it is the deepest rooting of all the citrus family that is used for budding purposes, it will stand wet feet better than any as far as tried in this State. It is more tender than the sweet stock as regards frost, when the trees are in the nursery, but after the first season is passed there is no apparent difference in this regard. During the early life of the tree, that on sour stock will not make as large a growth as that on sweet or pomelo, but when the trees reach maturity, there is little or no difference between the size of those on sour and sweet stock. It has been quite noticeable in many groves that trees on sour stock produce more uniform crops of fruit one year with another than do sweet-stock trees. The fruit is as high in quality and the trees withstand greater variations of conditions than do sweet-stock trees.

> I am very much pleased with the issues of the Cultivator of Januar 9th and February 13th. Both these issues are full of information an food for thought for everyone who gets his living from the soil, but pa ticularly the fruit growers.
>
> The Citrus edition is perhaps most interesting to me, as there i so much that is new in it, to the grower of deciduous fruits, although w do grow oranges and lemons for home use, even in this great wilderne of prune trees.
>
> I congratulate you upon these special issues and also upon the steady increase in quantity and quality of the reading matter that you set before your readers.—H. G. Keesling, Edenvale, Cal.

Pomelo stock makes the most rapid growth of the four kinds now in use in this State. It has the bad habit of gumming the first year after transplanting from the nursery, and many trees are lost at that time, but after this period is passed there is little trouble of this kind.

The trifoliate orange is now used to considerable extent as a budding stock. It is quite commonly supposed that commercial varieties budded on this stock will stand more frost than when budded on the other stocks. This is not the case, as trees on all four varieties of stocks growing in the same orchard and side by side showed no difference in this respect. There would be no advantage in the trifoliate or any other stock even if the trees did stand more frost, excepting during the first year. All of the commercial varieties of trees on any of the stocks will go through a harder freeze than will the fruit. The fruit will often be utterly ruined by frost and the trees will pass through uninjured. Orange trees should never be planted where frosts that will freeze the fruit are common. Aside from this argument, the trifoliate stock will not grow as large a tree as any one of the other three varieties. It is used in Jap dwarfing. It makes a large c at the base, with many variet stock making the larger grow the nursery, the newly trans trifoliata plants will make a larger growth than other va but as the trees grow olde slower growth develops.

ORANGE PUFFING AND S TING.

There has been much comm the street about the ingeniou soning on the part of the speaker at the fertilizer disc last week, to show how puffin splitting may be prevented by cious fertilizing.

We say ingenious, because w not believe the reasoning wil the test of comparison with The facts are simply this: Las there was an unusual amou splitting, probably more tha ever been experienced befor servation showed that it was entirely confined to the orchar cated on the higher slopes. was scarcely any in the grove cated under the old Riverside There seemed to be little diff in the various orchards under same exposure and location.

Again, two years ago there wa unusually large amount of puffing veloped throughout the orange g ing sections. There seems to b system of fertilizing that contr the puffing. It was more abunda on light soils than on heavy, b there was more than usual that son. Last season there was un ally little to be found anywhere, this year up to date we are singula free from it.

Now, if the fertilizer theory hold good, we must infer that spring and summer the growers the higher ground all ferti wrongly and those in the va where there were fewer splits, a ed the correct method of fertiliza But we must have all adopted the correct thing in fertilizers past two seasons to prevent puff and two years ago the method p sued by all was faulty. Now know that no such thing occur There are just as many comb tions of fertilization schemes there are five-acre pieces planted citrus culture. No two grower least, treat their groves exa alike, and yet in these re split and puffing, like results are obtained; so we must look for other cause. We give it up.—Riverside Enterprise.

COVER CROPS.

Conclusion of James Mills valu ble article.

Now, let us look at that. I ld that we got the amounts that I have stated. Compare them for a moment. You buy, say, ten pounds of complete fertilizer for every tree in your orchard. There are a hundred o the acre, a thousand trees ten acres. Ten pounds to the ould be five tons of commer-rtilizer. Five tons would be ton. That fertilizer would con-per cent. of available nitrogen, cent. of phosphoric acid, and r cent. of potash. If you want iore potash in a complete fer-you will have to pay larger If you want 5 per cent. they ut it in for you and you will r it at the rate of at least six en cents a pound for actual Four per cent. of nitrogen is nds to the acre, 80 pounds to n; 400 pounds of nitrogen to res, five tons, as compared to 400 pounds from the cover crop. e phosphoric acid, 8 per cent. pounds to the ton, or 800 unds to the five tons. I think that from one variety of cover ve had 3600 pounds of phosphor-l to ten acres, as against eight ed pounds from a commercial zer—four and one-half times as —not all available, but available h. You do not need to use as phosphoric acid; you must use You can easily get it by analyz-our crop; you can easily get it ing to the authorities and asking how much comes from a crop of r potatoes or corn or cotton, and ught to put back a little more aste, but it won't be much, and et these through the cover crop, great extent; but the nitrogen is you are after. It has been said, said truly, that for the growth ops you can get enough nitrogen the growing of cover crops, the ria taking it from the air and g it up in the crop that you grow, that you will not need to buy, your soil fertility has been re-d. if you have exhausted it, in nercial fertilizer. In fact, it is that if they had not found how to ifacture it from the atmosphere, would have to get along without ecause the available sources in e and elsewhere will be used up ur present rate of use.

a Library.

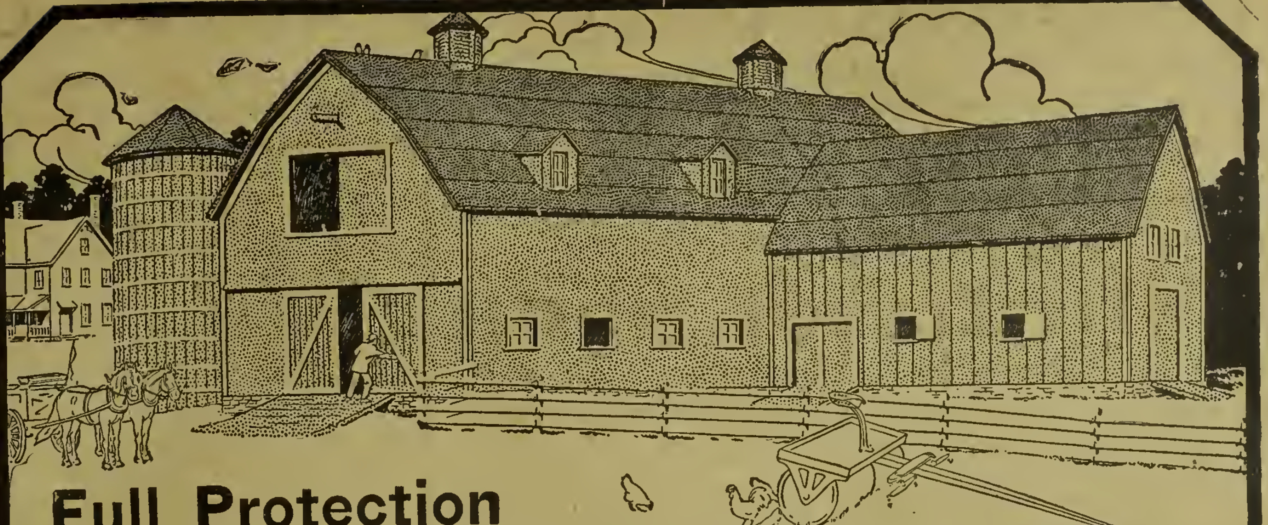
w, I think I should close. I wish you would think of this, that you d go to the authorities—get Hil-, get King, get Bailey, get Snyder, Voorhees—study them. The law-when he is asked to give an ion, goes to his library and he tell you what your legal rights But the farmer, when he is up ist a problem, stumbles along like forefathers and wonders what is matter. The matter is he is not to snuff;" he is not up to his ness; he has not read. Don't you that you need more brain power irm right than any physician, or minister, or good lawyer?

ake up! Get your library. What these men writing for us for? t are we paying them for? What Stubenrauch and Waite and others rimenting for, but for you and for For $25 we can get the result abors that have extended over a dred years and we can put it on shelves and with a little work, Elijah did a while ago, we can it and get it inside of us, and you be better farmers a hundredfold, use you have got the results of rs of wise men for many years eding you. But you go along year r year, just like the Egyptian farm-with his old plow that he used in eph's time. I mean this theoreti-y—you don't study. Go and get a library, and when this matter fronts you take down your books delve and dig, and there is not roblem that confronts you that you not solve without writing to the versity. You have no right to te to them, because they have put in print, and you can get it in usands of bulletins and you can it in the splendid scientific works t have been given us in the last tury.

Humus.

olomon said, "In all your getting, wisdom." I say to you farmers, all your getting, get humus in your l." (Great applause.)

or Mehring Foot-Power Milking Ma-nes see O. J. Weber Co., 555-557 S. Angeles St., Los Angeles, Cal.



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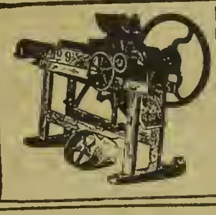

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The Culture of the Onion

One of the best authorities in this State on onion culture is probably Mr. S. J. Murdock, the writer of this article. For nearly forty years he has devoted himself largely to the culture of this, one of the most popular vegetables of the United States. Mr. Murdock has not only had experience in California, but one year in New Mexico, and also experience in the Hawaiian Islands.—Ed.

THERE is one thing of paramount importance which conduces to the satisfactory results of a successful onion crop, and that is good seed, for on good seed more than any one thing, the careful grower relies, and possibly to a greater extent than that of any other vegetable, unless it be the cauliflower.

Onion seed should be of the best possible strain of the variety intended to be grown and strictly fresh, as it soon looses its vitality. An experienced person ought to be able to judge onion seed as to age and vitality by inspection—bright color indicates new seed, while heavy, plump seed gives evidence of vitality—but for pure strains of unmixed varieties the purchaser will have to rely upon the grower and dealer. High priced seed or new-named novelties it would be best to test sparingly before planting extensively. It is our experience that the novelties of the catalogues are introduced more for the benefit of the originator and dealer than the producer. Nevertheless, once in a great while the producers do get hold of something new that is a source of profit.

A FIELD OF ONION SEED.

Cheap Seed Inferior.

Cheapness in seed of any kind carries with it the stamp of inferiority. The value attached to good seed by old growers is often a source of wonder to the inexperienced and is frequently overlooked by the beginner. Poor seed has caused many a novice to quit the business in disgust, with a loss of time, patience and money.

The onion top grows 15 to 24 inches high, according to the variety and the fertility of the soil. As the onion develops and the crop begins to mature the stock or top dries or shivels up near the bulb and falls over; this forms a ripe onion; but a portion of them, according to the purity of the seed used, will remain large and stiff just above the bulb. This constitutes a scallion or stiff neck. The scallion, although good to eat, does not keep well and is unmarketable; it is an inferior product. Most all vegetables are susceptible of being bred up to a high degree of perfection and the onion is no exception to this rule. If we should grow and select seed from scallions for a few years we would soon have a strain of seed that would grow scallions to a certainty. While on the other hand, if we would select the earliest and best shaped bulbs, with small necks (the word neck is used to designate that portion of the onion top close to and just above the bulb,) to propagate our seed from and continue this careful selection from year to year, we would soon produce a strain of seed which would, with proper cultivation, grow a fine crop of well matured bulbs with a small per cent of scallions. The unscrupulous grower will sell all of his marketable product, reset his scallions, and grow a crop of more than worthless seed, whereby the purchaser not only loses the cost of same but invariably his time and labor. Experience with poor seed all goes to show the importance of selling only the very best.

Another disreputable practice among some seedmen is to buy up the seed still on the market at the close of the season, hold it over along with what they may have unsold, till another year. Seed two years old is generally very unsatisfactory to the producer planting it. Yet a crop of very plump heavy seed may be better at two years than that of a poorly matured crop of new seed.

Good, reliable seed is the keynote to success in onion culture; if we go wrong here all may be lost. Many may think that I am over particular on this point, but my past experience tells me to the contrary.

Preparing The Seed.

In the preparation of the seed bed, the work should be done thoroughly, but not too deeply, especially for an early crop. The closer we keep the roots to the surface the earlier the crop may mature. The plot should be brought to the finest state of cultivation, as smooth and level as possible and free from rubbish. The onion will succeed in a greater diversity of soil than is generally believed, but the more humus the better, as fertility is a natural adjunct to a satisfactory crop. I prefer, for a large crop of solid bulbs, a rather heavy soil, well drained, yet, for an extra early crop, would plant on rich, sandy loam. The plot should be protected from heavy winds, and avoid all shade as the onion is a lover of sunshine in all stages of growth. Well subdued and thoroughly drained muck land offers every condition of success.

Planting.

Planting is generally done with a seed drill, of which there are several patterns. I find the Planet, Jr., a re-

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ol, and prefer the seed drill el hoe as separate machines ombined. I can do better specially with the wheel hoe, lighter and more open in con-, which gives the operator a iew of his work, and besides not wearing out your seed hile you are only using the oe.

should be taken to start the w straight, as following rows ged by it. Not only are regu- s the pride of the practical r, but a great help in after ion—the straighter and the ui-distant the rows the closer rator can work with the wheel he closer the work is done the nd-weeding will be necessary. ws should be from 12 to 16 apart, according to the variety the larger the variety, the the distance.

oist, heavy land, the seed be drilled just deep enough to over. The lighter and looser the deeper the seed should ted to prevent drying out be- iking root. If the soil is in condition to work, the firmer it d the better. The right time the seed varies with different s. To cover the entire year I own onion seed every month ve been very successful in ma- my crops. However, the crop arvested at regular periods as ires warm, dry weather to ma- onion crop.

varieties: For early market w Queen and White Bermuda st for this section, while the Reds are the main early crop Fraucisco market.

ormer I consider the best early if properly grown. It is a white onion and a good ship- is a quick grower, a fair yield- best selling onion I ever put market. When I first put this n the market I could scarcely buyer, but when its superior s became better known, the ave it the preference over all For later crop the Australian is the leading variety; is a lder and the best keeper and , while the Yellow Denver is second.

to Sow.

the seed in September or Oc- uite thick, on a well prepared ed, and when the plants are x to eight inches high, pull up nsplant on well cultivated and hly cleaned plot of ground in 2 inches apart and plants three apart in the rows. I always the tops so as to leave a stub three inches long, and think er to trim the fine roots some s it makes the transplanting and lets the soil pack closer the plant.

onion seed sold the last two or ears as White Italian, New Sil- in and New Queen in many did not prove to be true to hence great dissatisfaction. omplaint was very general. For rly varieties plant sets or sow from the 10th of September to r the 20th.

late crops sow seed February r as soon as possible after that If sown much earlier there likely to be a larger percent- scallions, also more hand-weed- On the other hand, if delayed g the yield will be perceptibly r. Put the rows 12 to 15 inches and sow from four to five per acre. After seeding, thorough, shallow cultivation is essential. Do not wait until the plants are up before beginning; from four to eight days will be proper, or when the seed begins to show signs of germinating, which can be ascertained by carefully brushing the soil from the drill row. I put the curved hoes on my wheel hoe, with the straight ends of the hoes pointing inwards and lapping about two inches, and hoe right over the rows, but not deep enough to disturb the seed. Right here, and in the after cultivation, will be seen the necessity of bringing the ground to the finest condition possible.

I find that it saves a great amount of hand-weeding by killing the weeds just starting to grow in the rows. When the onions are up sufficiently to follow the rows, I reverse hoes, with the curved ends next to the rows and just far enough apart so as to hoe as close as possible without cutting the young plants, by running the hoes astride the rows. This operation hoes both sides of the rows at one trip of the machine. Follow this by hand-weeding; this operation is best performed by the crawling process—that is, by getting down on hands and knees astride of the row and pulling every weed in sight and loosening the soil around and between the plants; repeat this as often as any weeds are to be found, and under no circumstances allow the weeds to grow above the onions; at the same time keep the wheel hoe at work between the rows and as close as possible.

Harvesting.

When the tops have turned yellow and dried or shriveled up near the bulbs, and the majority have fallen over, the crop is ripe and ready to harvest. If on moist land they should be harvested at once, for if left long in the ground the moisture from below and heavy fogs will soon cause them to start new roots. On dry land, however, the summer crop can remain quite awhile without injury.

Harvesting a mature crop is done by pulling two or more rows; lay the onions next to the standing rows, and when across the plot turn round and pull a number of like rows and lay with the ones previously pulled. This leaves them in a continuous pile across the field, when they are in a convenient shape to top, which is generally done with a sharp knife, after having lain a few days to more fully mature. While topping the bulbs are usually thrown in heaps ready for market or to store away, as the grower may determine. It is best to sack and haul from the field while the sun shines, as the onions

Continued on Page 294.

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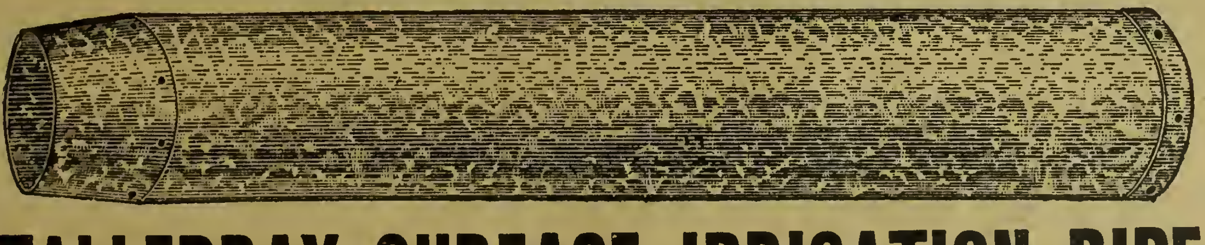

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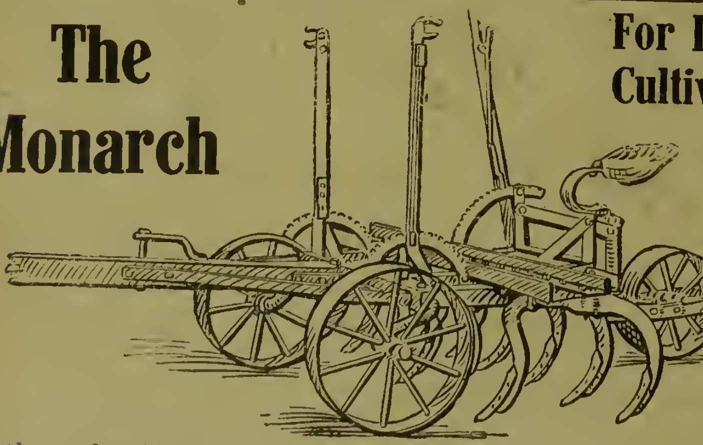

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California Grown See

Many people know in a general way that California is something of a fa flower and vegetable seed production, but we are glad to give our readers a idea by giving the following article written by Mr. Lester L. Morse, of the Seed Company. Mr. Morse is directly connected with this great industry, an a pleasure to read his short account as it is entirely authentic.—Ed.

WHILE garden and flower seeds are grown in a great many locations in various parts of of the world, there are but a few sections where the industry assumes any great commercial proportions. The American seed houses still import large quantities of beet, carrot, turnip, cabbage and most of the miscellaneous varieties of flower seeds. The Middle West produces most of the sweet corn, melons and cucumbers.

But California holds practically a monoply in the production of onions, lettuce and sweet peas, and is an important factor in competiting with Europe in celery, endive, leek, parsley, parsnips, radish, salsify and some of the more important flower seeds such as asters, cosmos, poppy, eschseholtzia and verbena.

A Specialty.

The business of growing seed is a very complicated one and calls for skill practically professional in its operation. It is also a very expensive system of intense farming, and the capital required and the detail involved serve to deter many from the business.

Three Selections.

In California, seed growing, excepting beans and peas, is confined almost wholly to three localities: Gardena in Southern California; Arroyo Grande Valley and Santa Clara valley.

The largest operations are confined to the Santa Clara valley, in the vicinity of San Jose and Gilroy, where about five thousand acres are devoted to the growing of the seeds above mentioned, and which have become known in the seed trade as the California seeds.

One firm alone in the South Santa Clara valley at Gilroy operate two thousand acres under their own direct management, besides their large areas of peas and beans, which are grown for them by farmers in Humbolt county and Lompoc, Santa Barbara county.

The Coast Line railway runs through one of Morse & Co.'s farms, and the long strips of sweet peas, lettuce, onions and carrots makes a good display during the months of May and June.

The plowing is now all done dry with traction engines, during the fall. Then as soon as the rains come all the teams and all the force are busy planting. The onions are set out by hand, right side up in rows three feet apart and about 50 sacks or centals to the acre. Planting onions begins about Nov. 1st and lasts till Jan. 1st. All the crops are supposed to be planted by the middle of February, and then the hoeing and cultivating begins and lasts to about June 1st. The earlier crops begin to ripen about the middle of July and then the harvest season continues uninterruptedly until the rains set in about Nov. 1st.

A seed grower's harvesting outfit is one of the greatest investments. Morse & Co. use three large mounted gasoline engines, two oil burning field steam engines, three specially constructed onion seed threshers and separators, two very large specially built radish separators, two large sweet pea separators, two specially built cucumber separator operated by engines.

Some crops such as lettuce celery, cannot be threshed by chine, and are flailed out by

Seasons Favorable.

There are no cold winters w and the seed grower works the whole year round. He one thing or another for six m of the year and he harvests his from June to November. His are greatly diversified, and e thing is grown in great var Morse & Co. operate extensive and experiment grounds on seed farms where everything grow or buy is tested, and w many new varieties are dev and improved. Fully thirty sweet peas, alone have been covered on their farms and so original introduction. New let new onions and several other tant novelities have been dev here.

Under the Blue Vault.

While practically every other growing section in the worl quires a great many sheds and ings for caring and harvesting seed, this work in California is done out of doors. Thousand yards of duck or drilling are m into the sheets or drying cloths, after the seed is cut it is cured these cloths, right on the land wh the crop has been grown. Here is threshed and roughly sifted, t taken to the cleaning houses to recleaned and put in merchanta condition and shipped away. M of the crop is contracted before it planted, this proving to be the saf manner of handling seed cro

The selection of the plants roots, the care exercised in for the crop, the intelligent m used in development work and eral treatment, all determine th quality of the seed grower's All California seeds are not of form quality by any means, none know this better than the American seed houses throug the United States and Canada.

A FAIR SPRAYING PROPOSITI

Test is the strongest argu When a reputable firm like the Mfg. Co., of Canton, Ohio, off send a choice of three different s ers with no money in advanc means that there is value and h in the proposition. You can try o their sprayers for ten days and if you buy you can pay the ca they will wait until you sell your

The Fitz-All Barrel Sprayer fits barrel or tank. Has special h working parts, which will last a time.

The Hurst Man-Power Potat Orchard Sprayer sprays anythi quiring spraying. For potatoes or kind of truck, it covers four rows time. It can also be turned over a tree-sprayer in five minutes frame is made of steel and working parts are brass It is ed on a Hollow-steel-frame wheelbarrow, and pushes easil cause it is well balanced.

The Hurst-Power Potato and chard Sprayer is a powerful m developing high pressure. It with either 60 or 100 gallon t one or two horses. Has steel f and axle with powerful pump w develops as high as 200 pounds p sure.

All these sprayers are protect a five-year guarantee, and, as they in their advertisements, "You our Machine with your money in pockets." There are no strings t offer. Their new free catalogue w sent to every applicant. It de their spraying machines and e how one can get a Hurst Sprayer It contains their agreement by wh any farmer or fruit grower can their machines "without sending cent."

TO PLOW UNDER GREEN STUFF.

is the time to plow under crops in the citrus orchards. lowing is attended with many tles some seasons and some good is lost which with early plowing would be a decided gain. If rains stop for the season in March, as they did last year, it will be difficult to get the land in shape and it will be impossible without irrigation. At this season of the year no time when the land is in propert condition to plow should be allowed to pass without turning it over. About the middle of March will be army worm time and if the season is favorable for them, the green stuff in the orchards will attract the millers which will lay the eggs in the green stuff.

A new introduction worth planting more extensively.

TO MAKE HARNESS LAST.

Harness oil serves an important purpose in stable economy.

It is one of those little things that mean a great deal when profit and loss accounts are balanced up.

Everyone knows how a water-soaked shoe hardens, and how much more liable it is to crack or wear through when in that condition.

It is just so with a harness. The leather and making may be the best, but contiual use in all weathers—wind, rain, sun and cold— tend to harden and dry out the leather and leave it without "life" or elasticity. Just at this point the destruction of the harness begins, because the open pores in the leather readily absorb moisture and animal sweat and decay at once sets in.

If a harness is kept soft—the pores filled with Eureka Harness Oil—it will go through daily service under the most trying weather conditions and last very much longer than it otherwise would.

"Eureka" is a heavy bodied oil made especially for treating harness. There are no acids or anything whatever in it that can injure leather, but it does contain elements that are positively beneficial.

When a harness is cleaned, an application of Eureka Oil makes it pliable—soft as a glove, tough as new leather. In point of fact—barring wear on the stitching—just as good for looks and actual service as a new harness.

Apricots in bloom all over the southern part of the State indicate a fair crop if weather remains favorable.

PILES CURED IN 6 TO 14 DAYS
PAZO OINTMENT is guaranteed to cure any case of Itching, Blind, Bleeding or Protruding Piles in 6 to 14 days or money refunded 50c

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uscat
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hompson's Seedless
erdell
ornichon
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lue Malvoise
urple Damascus
lack Morocco
lack Ferrara
okay

Almonds
X L
rake's Seedling
onpareil
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Knight's Early Black
Early Chapman
Bing
Black Tartarian
Royal Ann
Black Oregon

Apricots
Royal
Moorepark
Blenheim

Bartlett Pears, Phillips Cling, Orange Cling, Muir, Lovell and Elberta
Peaches, Climax, Wickson and Kelsey Plums, and Hungarian Prune
THESE STANDARD MONEY MAKERS ARE GOING FAST

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Fine
Assortment
We Offer

You never buy a cheap horse and expect to get a good one. Some fruit ranchers buy the cheapest tree they can get, but an orchardist—never. Our trees and vines are not the cheapest, but they are the best that Care in Selection and growing can produce. We propagate only from parent trees and vines that are the best specimens of their kind, and our stock will give you good service for a lifetime. That is what you want.

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____________________1908

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Queries and Repli

**Questions to be answered in this department should be received at this o
one week before reply is expected. Write plainly on one side of the paper
sign full name and address. Unsigned communications receive no attentio
Ed.**

Pulling Vines.

I would like some information as to the best way to rid twenty acres of diseased wine grapes. They are not dead, but do not bear fruit. If pulling up is best, kindly explain best way. If chopped off a foot below the ground would they cause much annoyance later? I intend to plant an orchard on this spot.—Edward Melone, Stockton,.

No, do not cut off below surface. They will be an exasperation and trial to you for years with their suckering. The writer with one helper and team cleared many acres years ago with the following simple device, very quickly and easily:

The rear part of the farm wagon, wheels, axle and hounds are taken and in place of the reach a 3x4 or 4x4 straight grained piece of Oregon pine, say, 14 feet long, is bolted. The principal projection is forward, and the projection to the rear is about even with the rim of the wheels. That is, when the front end of the pine piece is elevated and it stands perpendicularly, the short, rear end just touches the ground.

Clamped to the short end should be a stout hook to which a stout, short chain is hooked after being thrown a couple of times about the vine.

A few shovels of dirt should be taken away from the crown of the vine so as to get as low a hitch as possible, for sometimes the vine will snap off if hitched too high. Now, when the chain is firmly attached and with the long end of your "reach" or "lever" is up in the air, the team which is connected with the long end by a rope, say, 40 or 50 feet long is started, and, if the ground is moist and soft, the vine is popped up out of the ground with nearly all the roots attached. At least, there was scarcely ever enough left to sucker.

As your team settles down and learns the work soon, it will usuaully stop, after the vine is pulled, so that the axle is about over the next vine to be pulled, the chain is quickly attached, it is pulled, and so on across the field on the same row on which you started. Then turn around and come back on the next row.

The slight cost of rope, blacksmith's work, etc., is more than made up on the first day's work, over any other plan we ever saw.

Helpful Hints.

Of course you give the right time to plant flowers and garden for your locality, but we have to plant much later here on account of frost. I get a good many useful hints out of the Cultivator and am always glad to see it come.—J. R. Baker, Healdsburg.

To be sure, California has many kinds of climate and diverse conditions. A grower must use his judgment in whatever locality he may be.

Birds.

Please let me know in queries and replies column of the Cultivator what can I soak my seed corn with to keep the birds from taking it up. They dig down and pick out the kernel as soon as the young shoots appear.—Subscriber, Anaheim.

We fear there is no remedy, except to plant liberally enough that the birds may have a share and still have sufficient for a crop. If too
thick the plants may then be th
In any case don't be angry a
birds. They will eat enough
worms, army worms and other
to pay for their keep.

Dividing Plants.

In less than a year since m
rival in this State I have spe
least half my available time a
questions, and the Cultivator ha
swered scores for other people,
were just what I wanted to
but there are a few more que
I should like to ask: We have
clumps of Yucca and Pampas
are in undesirable locations an
wish to subdivide and plant
along the sides of an ornam
driveway. How shall we best
ceed?

We understand there is an a
tion of fruit growers which ov
conditions under which dried
are prepared for market and
antees the same when ders
Where are its headquarters
there any opportunity for us to
operate with the State and U
States departments in plant in
gations and experiments? If
how may we best go about it
Josephine O'Mealy, Kanora Ran

The Pampas may be divided
cutting up into clumps and rep
ing. It may be done now or la
If the yuccas are not too large t
may be moved by being careful
taking up with as large a ball of
as possible. They are very har
They reproduce from suckers.

The California Fruit Excha
with offices at Sacramento han
dried fruit, but we do not *know*
to supervision of drying.

You can secure help by
the United States Department
Agriculture stating your need. A
the State University at Berkeley
the Agricultural College rather, o
aid. The college often has
plants and seeds which are distr
ed at slight cost and the Govern
Introduction Garden at Chico
times distributes new plants.

Cruelty to Animals.

Why in the name of justice
some paper that wishes the fa
in general fair play, investigate
way they are being prosecuted
annoyed through or by the
called society for the preventi
cruelty to animals? It is plain
see they are doing it simply for
money they get out of the fines.
go out in the country and rou
a bunch of ranchers one day,
them appear next day to be pro
ed for the most trifling of
Every experienced man knows
it is at most impossible to work
twenty head of horses three m
plowing and harrowing without
ing some with chaffed should
we are doing a wrong why
they on first offense advise u
try and help us in a civil way t
better, instead of in a brag
way jerk the pads and collars off
carry them away, no matter w
part of the field you are in on
own place or how it inconveni
you. Leave you standing there w
dering whether you are in Amer
or some foreign land. They have
vicious law back of them, which th
are using to fleece and persecute th
people who are trying to do rig
Are they helping the cause the law
was intended to help or was the law
made especially for grafters?—A
Subscriber.

Possibly our subscriber may have
been unjustly treated, but in the

he law is just. Our faithful the horse, is often brutally The officers should be care-e just to all.

s of Corn and Barley.

much protein, carbohydrates does corn and barley contain? ., Pomona.

contains 12.6 per cent of pro-d 79.3 per cent. carbohydrates. contains 8.7 per cent. protein .6 per cent. of carbohydrates. ontains more oil than barley. lso exceedingly rich in the part (84 per cent,) conse-is the best of fattening foods.

t Imperial.

you please find if you have a ber anywhere on the desert e Colorado River, or more es-near Imperial, growing Crim-nter Rhubarb, and learn if it uccess; that is, will it go the hot season without in-the vitality of the plants? will you ask those who have seil or lease near Imperial, for gardening, let their ad. in your paper?—R. M. Bur-mona.

yes, we have a great many oers in the Imperial Valley. l ask them to observe the hint.

Posts.

often not convenient, or even e, to get fence posts that have eated with creosote. There is r effective method, that does st much, of protecting posts ies at and below the surface

the posts as dry as possible d off the corners a little and down the larger inequalities. nake bandages five or six inches of a light weight, unbleached, flannel, rolling them as a sur-loes.

up (a large pail full at a time,) m of cement. Use almost neat t, but put in a little sand. t that end of the post or pole oes below the surface, and inches above it, with the ce-ream; quickly wrapping it with ndage, just wrung out of hot

t each layer of the bandage, ng in three or four layers, and g as tight as possible. When as hardened two or three days, the bottom end of the post with tum where the bandage does ver well.

will double the life of a post or n the ground.—W. R. Lee, Los es.

rs and Johnson Grass.

ave received many good things the Cultivator, especially from ueries Department. I now send mite.

t, as to Johnson grass which I n enquirer asks about. I can thize with him. I poured com-coal oil on each plant when it red above the surface and fi-got rid of it all. It took a long but I succeeded finally.

gophers I used Wakeley's pois-wheat, using the same amount od wheat with the poisoned t. I also use carrots and strych-Cut carrots in small pieces, small sharp stick, which is first into the carrot, then with mois-of the carrot still on it, dip in rized poison and put it back in hole in carrot. Do this several . Put poisoned pieces in gopher and cover.—B. J. Carr, Lodi.

hope Mr. Carr will come again.

Dates.

Kindly inform me through the Cultivator if dates can be grown from seed; if so, what is the manner of propagation. I have some seeds which I put in water and they are sprouting. Is tree anything like date palm.

What is gypsum? What is the effect of gypsum on black alkali soil? Where can I obtain some? How much does it cost per ton?—D. F. C., Lemoore.

You can grow palms from the date seed, but they will probably not fruit, or, at least, not give you a good quality of fruit. The government and individual growers in Arizona and Southern California have gone to great expense to introduce from Algeria suckers from the various varieties of dates. When grown from suckers they are, of course, true to name. It is a palm, Phoenix dactylifera, and of very slow growth; much slower than Phoenix canariensis or so-called "date palm" ordinarily seen in our yards.

Gypsum answer next week.

Alcohol.

Please tell me where I can secure the alcohol spoken of in your article a couple of weeks since.—Mrs. K. H.

It is necessary as yet to buy of the drug store. Later, as its manufacture extends, as many hope it will, it will probably become a regularly handled product at all the merchants.

A Gopher Nuisance.

Is there now a law to handle the man who is so shiftless that he can not see the damage the gophers are doing on his own place, but makes no effort to get rid of them, allowing them to increase in numbers so that they continually stock his neighbor's place, causing the neighbor a large amount of damage and continual expense to keep them down?—W R., Hemet.

We do not think there is any such specific law, but the general law which prevents a man from maintaining a nuisance will probably be effective. Apply to your Horticultural Commission. It has the power to abate the scale nuisance, it should also have power to abate the gopher nuisance.

Water Right.

A has an orchard through which a creek formerly ran, or runs. Said creek only runs by heavy rains or freshet, and practically spreads over his entire orchard thereby irrigating same, but as it frequently happened, that he received more water therefrom than he wanted, he diverted said stream by digging a ditch along one side of said orchard, along a county road. Said ditch was made by permission and assistance of County Supervisors and is constructed four feet on the county road and four feet on land of said party, A. Said party, A, thereafter used as much of said creek water for irrigating his orchard as he saw fit by using a side ditch and by openings made along the banks of said creek or ditch, but did not make any filings on said water for irrigating purposes.

Subsequently, or after the creek or ditch had been made along the road, parties B, C and D made filings on the water of said ditch for irrigating purposes, and diverting said water from said creek or ditch through a side ditch to lands of their own, said point where water is diverted to lands of B, C and D, is at a point in said creek or ditch after the water has passed over or by said land of A who has the first right to the use of said water, Party A or parties B, C and D? A Subscriber, San Jose.

A certainly has the first right to the use of the water. That portion which passes over his land is his to use and to do with it as he sees best. B, C and D would probably be entitled to the use of any water left over and running through the ditch after it leaves A's portion of the ditch.

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7 H. P. 3500 FEET
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ACTUAL CAPACITY 25 TO 50 % MORE

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Morris & Snow's—Special selected for shape and size.

Every melon picked in best season, and carefully selected. One pound, sealed packages, $2.00; one-fourth pound, 60c.

A very fine strain of this melon, 90c per pound.

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Morris & Snow's special selected stock.

Every melon was perfect and picked in early season. No "cull melon" seed go into our stock. When cut, every melon was carefully examined and if not up to standard was rejected. This extra select stock in sealed packages, at $1.50 per pound; one-fourth pound, 40c.

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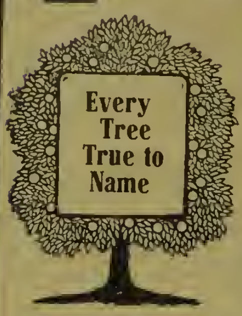

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We have the largest and finest stock on the coast. Our trees are all true to name, strong and thrifty, and are properly prepared for shipping so they reach their destination in perfect condition.

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Bartlett, 2 to 3 ft., Glou Morceau, will soon be sold. Order now if you want trees.

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Onions in the Coachella Valley

Mr. A. W. McGill, of Coachella, who writes the article below, is one of the pioneers of onion culture of that valley. His claim as to the profitableness of onion culture may seem fabulous, but we believe the regular who stands by onions year in and year out will win success.—Ed.

THE growing of Bermuda onions commenced in this valley in 1905. The writer obtained 50 cents worth of seed from Atlanta, Georgia, which was sowed on a small plot of ground and then reset in November, four inches apart in row, and rows 16 inches apart, with small irrigating furrows between every other row.

They grew remarkable well, and the following years there was planted about four acres, and I used the same method in growing that crop. First, I sowed the seed the first of September on a small plot of ground; when about the size of a lead pencil, I transplanted in rows as above. Kept the ground fairly well cultivated and irrigated about every ten days, and sold 35 tons of good marketable onions. One carload I sold f. o. b., which brought $542.00. Last season the valley produced about 50 carloads, and it looks like there would be 200 carloads sent out this coming season. Some planters here sow the seed in the field the required distance apart then thin to a stand. But the Texas growers prefer transplanting; while it is little more expensive the results are more satisfactory, and I find the best growers here prefer transplanting. The possibilities of this one crop cannot well be overestimated as a winter crop and a money paying one for this section of California, as the soil is well adapted to the culture of the Bermuda onion, and it would not surprise me to see 500 carloads go out of here as a yearly crop. They are good keepers, good flavored and look well on the market.

To all growers of this crop I would say: Get only first class seed and that fresh. Onion seed over two years old is absolutely worthless and over one year old has lost a great deal of its strength. By getting good seed one can count on a first class crop. The year I raised 35 tons every onion was marketable, no scullion or seed top. I look to see some acres this year produce $600 of good marketable onions. Which is saying a great deal for this soil that never had any commercial fertilizers.

ONION CULTURE IN CALIFORNIA.

Continued from Page 289.

should be perfectly dry in either case.

The yield per acre differs with different varieties, under different circumstances and on varied soils. Two hundred centals is a fair yield of the smaller varieties, yet it is not uncommon to raise three to four hundred centals per acre, and I know of one instance (which is certified to by witnesses,) of one single acre yielding 660 centals, and that, I am proud to say, was done on California soil.

Like The Mercury Back East.

The price and profits are about as variable as the mercury is in the Eastern States during the month of April. I have seen them a drug on the market at thirty cents per cental, while within six months I have known them to be in demand at $10 per cental, and have sold in the city of Los Angeles 100 sacks of early onions for $500. I I have never seen a year in this State, and have been a resident for the past thirty-seven years, but that onions have sold for $3 or more per cental, wholesale. I have grown onions more or less since 12 years of age and have found the business a profitable one; but let no one suppose that success can be attained otherwise than by steady personal application. A great mistake with many is to attempt too much at the start. Without the necessary experience and insufficient help, failure, or at best, but a partial success is the result.

In conclusion let me impress on the minds of those new to the business, be very careful in the purchase of your seed and do not attempt too much at the start.

A GOOD SHEEP DIP.

The West Coast Creosol Dip is said to be a most effective remedy for sheep scabies. It is a strong and effective germ destroyer, wool is really improved in texture by its use.

It is manufactured by the West Coast Stock Food Co., 818 San Fernando St., Los Angeles. Write for "special price freight prepaid."

WHAT CAUSES HEADACHE
From October to May, Colds are the most frequent cause of Headache. LAXATIVE BROMO QUININE removes cause. E. W. Grove on box 25c

DRY FARMING.

Continued from Page 285.

and blackeye beans, and transplant the stone tomatoes for fall shippers. Plant California Pearl cauliflower seed and large late Adams corn for roasting ears.

August—Transplant stone tomatoes and cauliflower, and plant fall potatoes, blackeye beans, peas, string beans; the variety according to your locality; Queen onion and early fall cabbage seed.

September—Plant crops for green manuring; vetch, blue and white peas, fenugreek and burr clover. Sow Winningstadt cabbage seed for the shipping crop; white Bermuda onion in the Coachella and Imperial valleys, but always the Queen nearer the coast. Plant Yorkshire Hero and Wiltfong peas, Canadian Wonder and the Ventura Wonder beans, Wonderful lettuce, winter spinach, beets, carrots, parsnips, salsify and winter radishes.

Spray your tomatoes with Bordeaux mixture.

October and November—Plant wheat, oats, barley, alfalfa, vetch, fenugreek, burr colver, blue and white peas. In frostless sections plant Canadian Wonder beans and Yorkshire Hero peas.

Spray your tomatoes with Bordeaux mixture. Transplant Winningstadt cabbage.

A THOUSAND INCUBATORS IN A WEEK.

The Petaluma Incubator Co. recently beat its own record when it shipped out a total of a thousand incubators in one week. This is because of a little business hustle and liberal advertising of the management.

A local paper speaking of the firm says:

Local poultrymen have almost stood in line waiting for the varnish to dry on the machines in order to get the home have actually taken machines some have actually taken amchines away while the varnish would stick to their hands. Is it any wonder that the erection of a new factory is contemplated. Had it not been for the fact of employing a large force of mechanics during the summer season and accumulating a large quantity of goods in warehouse the demand could hardly have been supplied. The Petaluma Incubator Company is certainly reaping the reward of its optimism.

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Vegetables in the North

Written especially for the California Cultivator.
BY JOHN ISAAC, SACRAMENTO.

VEGETABLE growing in Northern California is almost entirely in the hands of the Italians and Chinese. During the past few years the latter have been almost wholly replaced by the Italians who are becoming the sole producers of vegetables for the city markets.

Except for the home gardens, which are cultivated for relaxation and amusement, vegetable gardening does not appeal to Americans. It requires daily attention, hard work and close application; this, together with the necessity of marketing the product after it is grown, has turned the attention of the more intelligent American to other forms of production, and he has taken to fruit growing, and like wholesale lines, leaving the more strenuous labor of the vegetable or truck garden to foreigners. This is true only in regard to growing vegetables for the family market, and does not hold good where any form of vegetable can be grown and shipped in large quantities, and in Northern California there are enormous areas devoted to some one specialty. As in the South, celery has become a great specialty, so in the North asparagus growing, canning and shipping is carried on on an enormous scale. The Hickmott Asparagus Company have one single patch of this vegetable covering 1200 acres, while other bodies of somewhat lesser size are common along the Sacramento and San Joaquin rivers.

Asparagus requires a deep, rich alluvial soil, with plenty of moisture, and the ground cannot be too rich for it. These conditions are found in perfection in the islands of the great California rivers. These have been formed by sedimentary deposits of ages, forming a practical delta. The soil contains all its virgin richness and is of unknown depth. It is ideal for the uses to which it has been put, and the annual output is enormous. So great is this that is has in a few years placed California at the head of the asparagus producing sections, and our products in this line are found in every quarter of the globe. The value of canned vegetables shipped from this State will range close to three-quarters of a million yearly, a greater part of which is for asparagus.

While asparagus is the principal vegetable grown for canning and shipping, an effort has been made to grow rhubarb on a large scale, and some success has resulted from this, although it is yet in the experimental stage. As this can be produced very early in this State and can be got into the eastern market long before that grown in the East, there is no reason why it, too, should not become an article of importanc among our farm productions. It requires very much similar soil and conditions with the asparagus, and these can be found over a large portion of Northern California.

Tomatoes, which perhaps should rather be classed as a fruit than a vegetable, are also grown in large quantities for canning purposes, sometimes in bodies of several hundred acres in extent. Our early and long seasons make the growth of this plant much more profitable and easy than in the East. Here it is in bearing before it can be set in the open in the East, and it continues to bear after the early frosts have killed off the eastern crop. Growers usually contract their crops to the canners at the commencement of the season, often contracting to plant and care for a named number of acres, the canneries agreeing to take the product at a given price. Tomatoes with us are unusually prolific and are generally a good money crop. They are subject to several diseases, however, which sometimes reduces the profits, and of these anthracnose is the worst.

Peas are another crop which is grown to a great extent in the counties around the bay for the canneries. These are also grown in large tracts, but not in such large bodies as either asparagus or tomatoes. They are generally grown under contract.

Cucumbers and other vegetables for pickling are grown also on the contract principle and sometimes in large bodies, fields of forty to eighty acres sometimes being planted to this vegetable alone.

Potatoes, of course, figure among the more important vegetable products of the central and northern counties. These, as a rule, are not grown as specialties, but as a general field crop, and each farmer plants as in his judgment the market may demand. Last season there was a great shortage of potatoes in the market and the price went beyond all reason, two to two and a half dollars per cental were commanded early in the season, and later on as much as eight cents per pound became the retail price. These prices set farmers to planting potatoes last spring and in consequence prices this season are much lower. The chief market for these is found in our own cities, the mining districts of the coast, but large quantities are shipped from San Francisco to Central and South America and the islands.

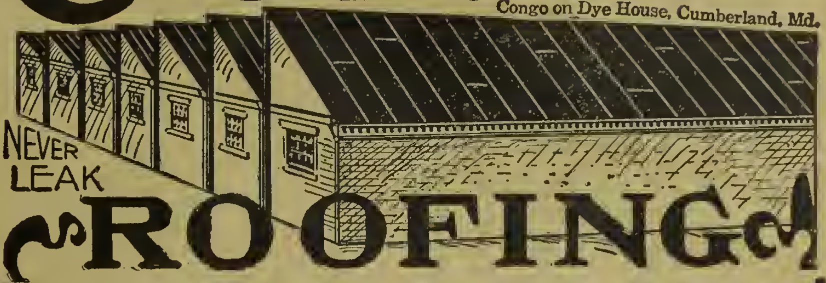
Onions are another vegetable crop which sometimes becomes important. Large quantities of these are shipped from the northern part of the State to Australia, in the season, Australia often returning the compliment by shipping onions of her production later on, when ours are gone. The onion is very difficult to keep, especially in climates like ours and that of Australia, and as the two seasons are exactly opposite, each has good onions when the other has none. Onions do exceedingly well with us and are a paying crop.

Beans are very extensively grown, and while Ventura still holds the honor of being the bean center of the State, very large quantities are now being grown in other sections, and this crop is steadily growing in favor as a field crop. Very large sections of Sacramento, San Joaquin, Alameda and other of the northern counties are now being devoted to the growing of beans, and it has been found to be a paying crop. The Lima is still the favorite as a money maker, but the crop is not confined to this variety.

Beets, of course, are grown in very large tracts, but for sugar chiefly, and under contract to the sugar factories.

These are the principal vegetables which are grown as field crops in Northern California. As stated above, the vegetable market is supplied by regular market gardeners and these are usually either Chinese or Italians. On the wholesale scale the crops are grown by American farmers with such help as they can command.

The open winters, long warm seasons and abundant moisture make the production of vegetables in this State comparatively easy and profitable; the great drawback is in the lack of sufficient and proper help in planting and harvesting the crop.



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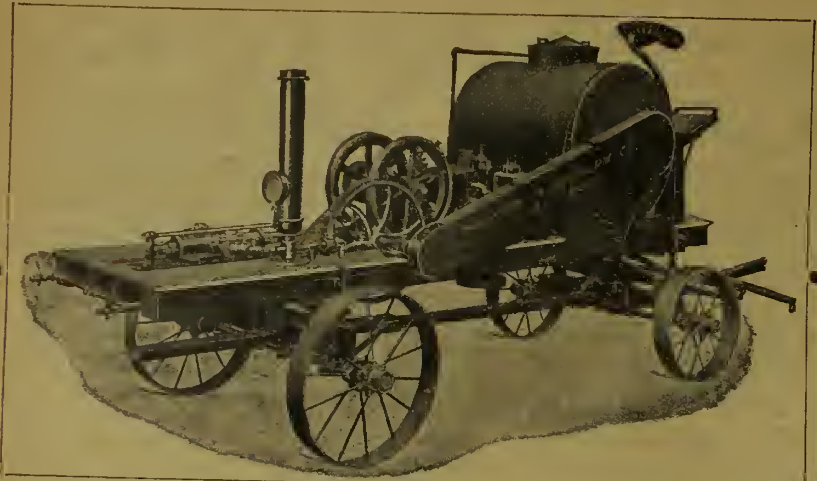

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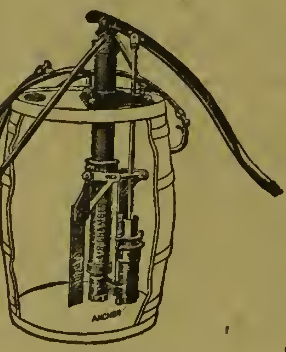
The "Monarch" is a high grade sprayer with two outside packed bronze plungers, bronze valves and fitted for two leads of hose. It is suitable for all kinds of spraying, cold water painting and whitewashing. The air chamber is large and the lever long making the labor light.

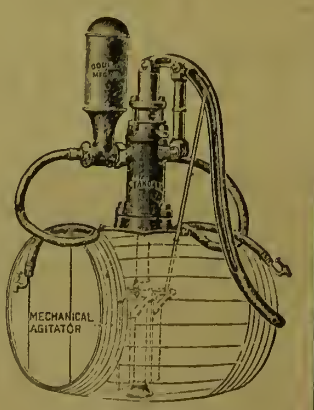
We carry it in two sizes: 2-in. cylinders, 3-4-in. suction; 2 1-2-in. cylinders, 1-in. suction.



"POMONA"

The "Pomona" is a most popular Sprayer as all the working parts are inside the barrel. The plunger, Gland, Valves and all working parts are bronze. The air chamber is large and the agitator most effective, operating with each stroke of the lever. It is fitted for two leads of hose.

The "Standard" is Double-Acting and an excellent Sprayer fitted for two leads of hose, but is less expensive than the Monarch and Pomona. The cylinder is 3-in. diameter, brass lined, plunger brass encased and brass valves.



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The Index Every Six
At Least Cut Out

Formulas for Spraying

SPRAYING THE GARDEN.

THE spray pump is a factor in garden making and, year by year more of a factor. The gardener must take this into account in his making ready for his work. Insects of all kinds, and fungi as numberless, are before him. Some may be reached by sprays, some not.

But one thing to be borne in mind, is that various washes used in spraying are for various purposes. Only recently a gentleman having a few trees on a lot called at this office to learn why the Bordeaux mixture had not killed the scale on his trees, having no other idea than that that wash was good for everything. While, as a matter of fact, it is not an insecticide at all.

There are two classes of washes used on insects. Those which kill by contact, and those which kill by carrying a poison to the plant which kill the insect when it eats of it.

The contact insecticide is used on all sucking insects, which get their nourishment by inserting a sucking tube through the bark and living on the juices of the plant. In this class of insects are the scale, aphis and others.

The cabbage worms, cutworms, grass hoppers and a thousand-and-one others which crawl around and chew up things (or, as our scientific friends would say, belong to the mandibulate class) are reached by the poisons.

Then, besides these two classes of insects, the gardener or orchardist must contend with a vast family of vegetable parasites or fungi—scab, molds, mildews, blight, etc. These are handled by another class of sprays called fungicides.

Sometimes washes like the sulphur, lime and salt wash, also the Bordeaux when Paris green is added, are insecticide and fungicide combined, but the sprayer must keep in mind the pest to be reached, and use his wash and his effort to the best advantage.

Fumigation has its place, but requires more extended space than is at command on this page. Besides, it is more the work of the specialist.

CONTACT INSECTICIDES.

First, I will give one of good old-time-contact insecticides, which was used years ago and a better has never been produced, but owing to its cost and difficulty in cooking and mixing, is now seldom used. It is the

Rosin Wash.

Caustic Soda (70 per cent)	7 pounds
Rosin	20 pounds
Fish Oil	3 pints
Water, to make	100 gallons

Place the rosin, caustic soda and fish oil in a boiler, pour over them about 20 gallons of water and cook thoroughly over a brisk fire for three hours, then add hot water, a little occasionally and stir well until diluted to 50 gallons of hot solution. Place this in the spray tank and add cold water to make the necessary amount. Never add cold water when cooking.

Kerosene Emulsion.

Another old-time and effective remedy is the whaleoil soap and kerosene, good for all scale and plant lice pests.

Whaleoil soap, or Hard soap (chipped)	1-2 lb.
Water	1 gal.
Kerosene	2 gals.

Whaleoil soap is to be preferred, but ordinary laundry soap may be used. Dissolve in one gallon of boiling water and while soap solution is boiling hot, pour into it, away from the fire, two gallons of kerosene. Commence agitation immediately, with a force pump, pumping the liquid back into itself until a thick, creamy mass is obtained. If the emulsion does not form within 10 or 15 minutes the whole may be reheated to the boiling point over a fire out of doors. The time necessary for emulsifying depends upon the quantity of mixture made, and if the proportions given are multiplied several times, the period of agitation must be continued longer. No free oil should appear on the surface when the mixture is completed.

Soft, clean water should be used from which all dirt particles have been removed, otherwise they will become centers for the collection of free oil. If only hard water is available, it should be "broken" with lye before being used. Dilute the emulsion obtained from the above formula with 27 gallons of water, or nine parts of water to one part of the emulsion for scale insects; for plant lice it may be diluted twice as much. If the emulsion is well made it can be kept for a long time as a stock preparation in closed jars. For tender plants dilution should be one part of the emulsion to 15 or 20 of water.

Kerosene sprays of any description should not be allowed to collect about the base of the tree or in the crowns of the plants to which they are applied. It is sometimes best to bank the trees with earth before spraying and should the earth become saturated with kerosene remove it from contact with the tree within an hour or two after the application is made.

Kerosene or Distillate Mixture.

Kerosene mixture—that is, kerosene or distillate held in water by being violently mixed or stirred in the water while being sprayed, is not always successful. It must at least be very carefully applied or injury or death to plant will result. One-half to two gallons of distillate to 100 gallons of water, according to kind and condition of plant.

Sulphur, Lime and Salt Wash.

The S. L. and S. wash is seldom used in the garden, but as one of the old-time scale remedies, is well worth a place here.

This wash is for application on deciduous trees when they are dormant:

Lime	40 pounds
Sulphur	20 pounds
Salt	15 pounds
Water, to make	60 gallons

Boil 10 pounds of lime and 20 pounds of sulphur in 20 gallons of water for from one and one-half to two hours, or until the mixture is a deep amber color, which will indicate that the sulphur is dissolved. The balance of the lime, 30 pounds, should then be slaked in another vessel and the salt added to this latter mixture. This should be stirred until the salt is dissolved and then added to the original mixture of lime and sulphur, and the whole boiled for from thirty to forty-five minutes longer, enough water being added to

:ors? If Not, Do So

akes a File Valuable
These Two Pages

ng the total amount of material up 60 gallons. Next strain the mate- l into the spray tank and apply to trees hot. Do not let the mate- l get cold, for the portion of the gredients will then crystallize and ecipitate out of the liquid, and its ectiveness is much reduced.

ap and Tobacco.

Dissolve 8 pounds of the best soap 12 gallons of rain water, and when d, add 1 gallon of strong tobacco uor.

bacco.

'obacco decoction is made by boil- one pound of stems or of dust in or two gallons of water until a k brown liquid is obtained. When ling is finished, add water to ke two or three gallons of solu- n; efficiency of the spray will be reased by adding one pound of aleoil soap to every fifty gallons decoction. The solution will not m the tenderest foliage, and is ef- tive against plant lice.

p Solution.

Ordinary laundry soap, a half of a und dissolved in five gallons of water will kill nearly all the nt lice, red spider and softer lied insects. Even on young black le of the orange it is effective. Ap- while hot.

t Water.

Hot water can be used with safety cabbage worms and works satis- torily.

ach.

uhach, if fresh, on house plants ally proves effective on lice, red der, etc. It also works with s, fleas and other household pests.

POISON INSECTICIDES.

f course some of the above con- t insecticides work satisfactorily the other class of insects, that is "chewers" or mandibulates, but y are easier reached by poisons, ch they eat and take into their em, some of which are remark- y effective. Arsenic and its com- nds form the base of many of se poisons.

is Green.

s a spray use 1 pound to 200 gal- s of water. Keep well stirred so t the poison shall be held in sus- sion. If this is neglected the n will settle to the bottom of vessel, as it is not soluble in er, and the result will be that spray will contain little poison first and too much towards the . In spraying stone fruits use mixture more dilute, 1 pound of on to 300 gallons of water.

don Purple.

ondon purple is seldom used ow- to the uncertainty of its purity, eing more liable to injure plants. same strength as Paris green.

te Hellebore.

sed as a spray. One ounce of the on to two or three gallons of er. When applied dry it is sel- mixed with anything. A little r, however, makes it more adhe-

nite of Lime.

his insecticide is coming more in- popular favor yearly, and is thy of it, but it is not safe to be l alone. Arsenite of lime is at t one-half cheaper than Paris n, is equally efficient, and will burn the tenderest foliage at the ngth ordinarily applied, when l in Bordeaux. To make 800 gal- of spraying mixture:

Soda	8 lbs.
er	2 gals.
te Arsenite	2 lbs.

oil all together for 15 minutes, or till the arsenite dissolves. One pint of this stock solution and 2 pounds of slaked lime, added to a barrel of water is equal in insecticide value to 1-4 pound Paris green, and costs half as much.

Arsenite of Lead.

One to five pounds per 100 gallons. It does not burn the foliage.

Another for arsenate of lead:

4 ounces arsenate of soda)50 per cent strength); 11 ounces acetate of lead; 150 gallons water.

Put the arsenate of soda in 2 quarts of water in a wooden pail, and the acetate of lead in four quarts of water in another wooden pail. When both are dissolved, mix with the rest of the water. Warm water in the pails will hasten the process. For the Elm-leaf beetle use 25 instead of 150 gallons of water.

FUNGICIDES.

The greatest of all the fungicides is, of course, the Bordeaux. Yet there are others which have accomplishd much. The mildews, molds, rusts and other troubles are most perplexing and after once apparent on plant or tree little can be done for them. In other words, funguous diseases are emphatic examples of the "ounce of prevention" theory. Once the eye sees the fungus the damage is largely done, or at least, the disease is so established that no remedy is strong enough to reach it. One preventive measure is fire. That is, burn weeds, rubbish, old vines and everything which may harbor the pest. Then use a fungicide before the trouble, which is expected appears.

Bordeaux.

The Bordeaux mixture varies greatly. Some will use 2-2-50 formula, others 4-4-50, and yet others 4-6-50 or 6-6-50. The more common strength is probably 5-5-50. It can be varied to suit. That strength, however, will not injure vegetable growth. Watch well your mixing.

Copper Sulphate	5 lbs.
Fresh Lime	5 lbs.
Water to make	50 gal.

Dissolve the copper in hot water or by suspending in coarse bag near top of a vessel of cold water. Slake the lime separately and strain. Do not add water in too great quantity, but allow to perfectly slake before diluting and straining.

Dilute the strained lime to about 25 gallons, likewise the dissolved copper solution. Then, simultaneously pour the two solutions together into the barrel from which the sparying is to be done.

Don't pour one into the other and don't mix strong solutions.

Copper Sulphate Solution.

Strength a.

Copper sulphate (blue vitrol)	1 lb.
Water	15-25 gals.

Dissolve the copper sulphate in water when ready for use. This strength is to be used only before the buds break. It should never be applied to foliage. For peaches and Japan plums use 25 gallons of water.

Strength b,

Copper Sulphate (blue vitrol)	1 lb.
Water	200-300 gals.

This solution is gaining ground as a substitute for the ammoniacal carbonate of copper in spraying ripening fruits, especially plums. At the rate of 1-4 pound per barrel it is equally effective and seldom injures the foliage appreciably, though it is always better to add a little milk of lime. Use the weaker strength given on peaches and Japan plums. It does not stick like Bordeaux, and must be used about twice as often.

Ammoniacal Copper Carbonate.

Copper carbonate	5 oz.
Ammonia (26 per cent Beaume about	3 pints.
Water	45-50 gals.

Make a paste of the copper carbonate with a little water and dilute the ammonia with 7 to 8 volumes of water. Add the diluted ammonia to the paste, but be careful to use only enough to dissolve all the copper carbonate. Allow the solution to settle and use only the clear blue liquid This loses strength on standing in open vessels, but may be kept indefinitely in a stopped bottle indefi- spraying dilute to 45 to 50 gallons.

Iron Sulphate and sulphuric Acid Solution.

Iron Sulphate (copperas)	110 lbs.
Hot water	26 lbs.
Sulphuric acid	1 qt.

Add the acid to the copperas and pour on the water. Use when fresh. To be used only as a wash before the buds swell, applied with brush or sponge. Its chief value is for grape anthracnose.

Potassium Sulphide Solution.

Potassium sulphide	1-2 to 1 oz.
Water	1 gal

This loses strength in standing and should be used immediately. Keep the sulphide in a stopper bottle. Valuable for mildews, especially the gooseberry mildew.

DUST "SPRAYS."

The dust sprays have not as a rule been favorably received in California, but there are occasions when they work satisfactorily. The dry Bordeaux is as follows:

Materials required to make seventy pounds of a stock powder:

Four pounds of copper sulphate (blue stone;) four pounds of good quick lime; two and a half gallons of water, which is to be added to the quick lime; sixty pounds of air-slaked lime, which has been sifted through the fine sieve mentioned below.

Directions: 1. Break up into small lumps about seventy or eighty pounds of quick-lime and spread it out so that it will become air-slaked. When slaked and perfectly dry sift it through the fine sieve (100 meshes.)

2. Completely dissolve four pounds of copper sulphate in two and a half gallons of water. The easiest way is to suspend the sulphate in a coarse bag just below the surface of the water until it is dissolved.

3. Pour gradually two and a half gallons of water over four pounds of good quick-lime in such a manner as to slake it to the finest powder and give a good milk of lime solution; let it cool.

4. Put sixty pounds of the sifted, air-slaked lime into a shallow box—one in which the material can be well worked with a hoe or shovel.

5. Pour the well stirred milk of lime and the copper sulphate solution at the same time into the third vessel containing the lime and stir it until the whole is thoroughly mixed. It will have a deep blue color and be thick. This is so finely divided that it will remain in suspension for hours.

COMBINATION OF INSECTICIDE AND FUNGICIDE.

The only safe combination of this character, is that of Bordeaux mixture and Paris green or London purple. The combination of these mixtures results in no injury to the foliage of the plant treated, and yet each retains its value to the extent of being as good when used separately. The great value of the combination is in lessening the cost of the treatment, for we save the cost of one application. In preparing the mixture use the formula for Bordeaux mixture and add to it the Paris green or London purple at the rate of 1 pound to each 200 gallons of the mixture. While using keep the mixture well stirred.

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California Cultivator

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THE WHITTIER FARMERS' INSTITUTE

The agriculturists of Southern California will have an opportunity on the 17th, 18th, 19th and 20th of this month to gain much vauable instruction from the course of lectures to be delivered by scientific men at Whittier, the occasion being a special Farmers' Institute, celebrating the opening of the Southern California Pathological Laboratory. Lectures will embrace vegetable culture in its varied forms; walnut growing, covering its diseases and remedies; citrus growing, through its diversified conditions of soil, cultivation, fertilization, irrigation, handling and transportation.

The Pathological Laboratory, its relation to the grower and the benefits to be derived from it, will also be discussed. Some of the strongest men in the State are assigned special topics and the occasion is to be made one of the most important in the history of institute work in this part of the State. By all means do not miss this school of instruction. There will be none better in Southern California this year.

In connection with this meeting there will also be held an exhibit of citrus fruits and other products related to the subjects under discussion. In conjunction with the California Fruit Growers' Exchange and others, a large display is in preparation, of sample boxes of citrus fruit representing the various brands shipped from the State. A particularly fine exhibit of lemons is expected from the members of the "Lemon Men's Club," representing all the important lemon shipping houses of the State.

Mr. Ralph Smith writes that Mr. G. Harold Powell will prepare a display, representing some of the most striking results of his important investigations, while the work of the Pathological Laboratory will be represented by various exhibits.

Exhibits of any articles of interest to fruit growers are invited for this display and should be sent, prepaid, to the Pathological Laboratory, Whittier, California, to arrive not later than Monday, March 16, or may be brought to the exhibition hall.

Tuesday will be vegetable growers' day. Topics treated will be: "Vegetable Industry;" "Cabbage Growing;" "Tomato Growing;" "Celery Growing;" "Plant Lice;" "Benefits of Agricultural Experiment Stations;" "Relation of State to Farmer."

Wednesday will be walnut growers' day. "Walnut Industry;" "Walnuts in France;" "Planting the orchard;" "Blight Control;" "Pathological Laboratory;" "Conservation of Fertility;" "College of Agriculture" will be topics.

Thursday will be laboratory day. There will be inspection and dedication with banquet in the evening. Governor Gillett, President Wheeler, Prof. Wickson, Commissioner Jeffery and others expected.

Friday is citrus growers' day. "Citrus Culture in Sacramento Valley;" "Citrus in Tulare County;" "Fruit Shipper and the Laboratory;" "Handling Fruit" and other instructive topics.

Amongst other speakers are Prof. Wickson, Dr. M. Osmun, Lambert, Hazeltine Woodworth, Steadman, Cogswell, Neff, Dunlap, Roeding, Ramsey, Chapman, Mills, Smith, Jeffrey, Reed, Powell, Teague and True.

It will be an intellectual feast for soil tillers. They should take a week off and attend.

DISEASE GERMS AND THE FARMER.

We have been much interested in the lectures of Prof. Herbert Conn, on Bacteriology, which ran through a series in the Country Gentleman, of late One discourse especially appealed to our mind as worthy of more than passing reading. This address referred particularly to "Disease Germs and the Farmer."

Those of us who have had practical experience on the farm with barb wire, and rusty tools, know how common it is to receive ugly wounds which often cause prolonged annoyance and sometimes result seriously. A hurt produced by a jab from a rusty fork tine will often lay the victim up for days. He is fortunate if he does not have blood poisoning, as rusty iron or steel points are often coated with microbes of a poisonous nature, which, when brought into contact with the blood corpuscles, germinate into death producing bacteria.

Prof. Conn treats these germs as affecting the body in three different directions, first, as they directly pertain to wounds and the treatment of them, we quote what he says:

Of the various human diseases known to be caused by bacteria, we have no space to mention more than one or two. One of the most common of the diseases produced by the growth of these parasites is blood poisoning, and this is a matter of so much practical importance that it is desirable to refer here to a few prominent facts. Blood poisoning is a term that has a variety of meanings, and refers to a series of infections differing greatly in severity. On the one hand are severe cases of blood poisoning, called septicaemia or pyaemia, which spread rapidly through the body and result in death; at the other extreme are such very slight troubles as are characterized by the appearance of slight inflammation resulting in boils or festers on the skin, which soon come to a head and discharge a little pus, and heal rapidly. Between these extremes we have forms of various severity—abscesses, carbuncles, felons and various grades of severe blood poisoning affecting the whole body. It may seem at first strange to class together the extreme cases as rapidly fatal blood poisoning and such slight, unimportant phenomena as little abscesses and inflamed spots in our skin; but study has shown that they are all produced fundamentally by the same type of bacteria, and differ from each other chiefly in degree of intensity, rather than in kind.

Every farmer is liable to more or less injury to his hands, or elsewhere, breaking the skin, and thus allowing a possible entrance for these germs into the sensitive parts beneath. It is therefore a matter of great practical importance that all should learn how to treat such wounds to prevent the danger of such troubles as far is possible. The method of treating wounds is simple and at the present time even an uneducated person is in a better position to treat wounds properly, so as to prevent blood poisoning, than our best physicians were a generation or more ago. The two precautions that should be taken are:

1. The wound should be cleaned as thoroughly as possible of all dirt that may have entered. To do this, it should be washed, preferably wi water that has been boiled and subsequent cooled, for such water will be practically steri Thorough washing and cleaning is always first necessity of treating any wound.

2. The application of some disinfectant to t wound is always desirable. For this purpose many of the ointments for sale by druggists are excellently adapted; for most of these consist of an oily substance to protect the wound from the air, and contain a quantity of some disinfectant to protect the wound from any germs that may be on the surface. An excellent wash for this pu pose is a 5 per cent. solution of carbolic acid, made by adding one part of carbolic acid to twenty parts of water. If the farmer will keep on hand such a carbolic solution and acquire the habit of cleaning and then treating every bruise and wound with this solution, afterwards covering it with a clean cloth, he will avoid a large proportion of the inflamed sores and sometimes the serious troubles that may follow the wounds and bruises that he is liable to receive. Hardly anything will be more likely to reduce unpleasant results which follow wounds than this simple procedure:

It should be also noted that sometimes germ of even more serious nature enter wounds that extend deep into the flesh. The germ of lockjaw lives in the soil, and when one receives a de p wound from any object that has been lying on the soil, these germs are liable to get into the body. If they do so, and grow, fatal results are almost certain. The only precaution the farmer can adopt in this matter is to remember that deep wounds made by objects lying in the soil are exceptionally dangerous, and in case such a wound is received, a physician should be e ployed at once

The rush to buy lands in California is in no sense abated. Railroad agents report the capacity of their lines taxed to the limit to accomod e the thousands who are fleeing from the East t this State in quest of agricultural holdings. Dur ing the past sixty days, it is estimated more lan in California have been sold to actual settlers th in any similar period for years. These purchas are not all "tenderfeet," seeking the balmy atm phere which this State furnishes, but habitant our own cities, who, wearied by the nervous t sion co-existant with city business life are g to the country to find a home where excite does not make them grow old before their time

We quite agree with Prof. Wickson that the periment station movement is likely to be ov done. The proposition by a Kansas congressm to establish 100 experimental farms of one each in every county in a group of four Wes agricultural States, is about the limit of surdity. It would be far better to increase the propriations for those already organized and m them bigger and better every way, than to large the number and limit their usefulness want of support.

THE ECONOMIC AND AESTHETIC VALUE OF THE HOME GARDEN.

Continued from First Page.

to think of them: Fried chicken, roast pig, wild and tame turkeys, ducks and geese; venison just killed; squirrels, rabbits, pheasants, partridges prairie chickens; biscuits, hot butter cakes, hot buckwheat cakes, hot wheat bread, hot rolls, hot corn pone; fresh corn boiled on the ear, succo tash, butter beans, string beans, tomatoes, pea Irish potatoes, sweet potatoes; buttermilk, swee milk, "clabber;" watermelons, cantaloupes al fresh from the garden apple pie, peach pie, pumpkin pie, apple dumplings, peach cobbler I can't remember the rest."

gricultural Notes of the Pacific Coast

orthern California

luma rainfall aggregates 14.83

a Rosa will hold a rose carni- May.

planting is progressing on the sity farm at Davis.

orchards at Yuba City are be- moved and new trees planted.

luable farmers' institute was Barry, Sutter county, recently.

Rosa recently shipped 400 of eggs, or 12,000 dozen in one

creamery of the State Farm at will have a capacity of 600

ett Valley Grange observed gton's Birthday by giving an inment.

are busy days in the Gridley s, as many new orchards are lanted.

grower at Ukiah has made a t for the coming three years at s per pound.

ge number of Smyrna figs will ted in the Sacramento Valley the coming season.

p buyers at Red Bluff seem to ce at this moment, and sheep- y they have large stocks for

Chamber of Commerce at San- a recently made a free distri- of flower seeds and rose cut-

Governor is to issue a procla- by which all sheep in the must be shipped before the 15th

ithstanding the favorable sea- in growers of the Sacramento would not object to another hower.

llation of the creamery at Da- m has been delayed by defect- ent work which had to be con- anew.

ey Colony No. 1 has shipped oranges of the season. There bout 1100 boxes and the price s $1.40.

Rosa reports the receipt of numbers of eggs at this time day last week one firm han- r 130 cases.

ara grass which has been dis- in small quantities from the tation is proving remarkably lapted to overflowed, moist

usand acre field of asparagus planted at Hale Island and he section along Suisun Bay g to be remarkably well to that industry.

than a half of the 300 mem- the Sonoma County Poultry tive Association have signed ct to deliver their poultry and the association storehouse.

Vinters Fruit Association was formed with the purpose of the coming crop of green he directors for the first year enry Brinck, president; H. G. ecretary; A. L. Stinson, Wm. nts and A. H. Shepherd, with before named, form the board ors. L. N. Brown of Acampo he local manager.

Central California

Dinuba is soon to have a new station on the Santa Fe.

The prune market seems to be decidedly dull at the present moment.

Rainfall at Tulare to date amounts to 9.19 inches as against 7.66 last year.

Olive growing has proved very successful in the Turlock section this year.

One farmer at Hollister has been investing in a bunch of fine Shire mares.

The California Wine Association is setting out a large number of vines near Gilroy.

The Central California Produce Company at Turlock is lining up for a good season.

Parajo Valley claims this will be its banner year in the amount of apples produced.

Many Santa Clara Valley orchardists are giving heavy winter irrigations to their orchards.

The Central California Bee Keepers' Association recently held an interesting all-day session at Hanford.

Turlock fruit growers are appealing for a rabbit drive to rid that section of some of their unwelcome guests.

The output of the Parajo Valley last year of apples aggregated 2058, and the total gross value was $1,423,528.

Soledad says that its crop prospects at the present moment are decidedly lighter than at the same date last year.

San Bernardino orchardists are spraying with sulphur, lime and salt wash to kill winter aphis from the trees.

Tulare Grange recently devoted one session to discussion of what variety of peaches were desirable for this section.

County Entomologist Morris of San Jose is directing a large number of spraying operations in the Santa Clara Valley.

The Orchard City Grange at Campbell recently held a pleasant meeting with third and fourth degree work followed by a banquet.

The fruit inspector of San Benito county reports some sections slightly affected with peach blight, but nothing of a serious nature.

Hanford is raising money to compensate its committee man for his recent visit to Washington in the interest of the sulphur ruling campaign.

Tomato planters near Turlock are putting in extensive hot beds for planting seed for tomato plants. One grower there will plant 20 acres this year.

Managers of the Visalia sugar factory are preparing for an early campaign in sugar making this season. It is hoped that by the 1st of June at the latest.

The contractor who recently created so much disturbance by his destruction of trees in the Big Basin Reserve urges investigation that he may prove that he did not destroy valuable trees.

The cutting of giant redwoods in the Big Basin which created such a stir, especially at San Jose and points near the reserve, that the order permitting the destruction of the monarchs has been rescinded.

Southern California

Oxnard has a ginseng farm.

Oxnard has 14 inches of rainfall.

Alfalfa hay harvest began last week in Imperial valley.

San Bernardino is planning for races on March 17th.

Coachella valley is also experimenting with sugar beets.

Orange and lemon land in and around El Cajon is in great demand.

Fullerton has a pullet which is claimed to have laid 172 eggs in 7 months.

A quarter of a million of tomato plants are now being transplanted near Brawley.

Three thousand blight resistant scions have been set in the orchards of J. B. Neff of Anaheim.

San Diego merchants are now shipping quantities of mountain apples to Los Angeles.

Spraying machines at Riverside are in constant demand and every one available is in use.

E. C. Bryan of Spring valley is now plowing under a very rank growth of fully matured peas.

A Lemon Cove orchardist planted Canadian field peas extensively the past season for soiling crops.

Coachella valley is making hay from Bermuda grass, which is said to be fairly good feed for the stock.

Wm. H. Fisher of El Cajon has four old Mission olive trees that produced two tons of olives the past season.

The quality of oranges in Southern California is remaining exceptionally fine, puffs showing up in very few orchards.

Geo. M. Hawley is now marketing from his La Mesa ranch strawberries that run eight berries to the box. Next!

Covina farmers held an interesting farmers' club meeting last week. The next meeting will be held on March 21st.

While the Salton Sea at the present moment is receding but slightly, the total fall during the past year has been three feet.

The Santa Ana Valley Walnut Association now has 207 members who delivered to the association last year 1,060,000 pounds.

Riverside orange groves are showing a slightly reduced output over that which was expected at the beginning of the season.

The purple scale parasite, recently introduced from China, is declared to be doing some good work near Fullerton and Anaheim.

Orange county has organized the Orange Protective Association. Any farmer may become a member by paying the 25 cents per acre fee.

The hand picking over of lima beans in Ventura packing houses has just been finished. Many of these beans were spoiled by being out in the October storm, necessitating the expensive sorting.

Southern California cattle owners are experimenting with a new cattle dip which is taking the place of the old oil dip. The effective agent in the dip is said to be arsenic, and is recommended by the Bureau of Animal Industry.

The Coast

Peach trees are in full bloom in Lewiston, Idaho.

All sheep coming into Colorado are now compelled to be dipped.

Fruit trees at Walla Walla, Wash., have begun to bud and blossom.

A new grange was recently organized at Ellensburg, Washington.

A county farmers' union has been organized at Bridgeport, Washington.

Farmers at Greeley, Colo., still have 2300 carloads of potatoes yet to market.

An interesting farmers' institute was recently held in Waverly, Washington.

Heavy rains at Lewiston, Idaho, have been of great value to crops in that section.

Fruit men at Billings, Montana, will entertain the next State horticultural meeting.

Neary 1,000,000 fruit trees have been planted in the vicinity of North Yakima Valley this season.

The Department of Agriculture is experimenting in the planting of tobacco in the Hawaiian Islands.

The Chewelah, Washington, creamery paid the farmers in its immediate section $16,000 for cream last year.

North Yakima hop growers are destroying their hop yards and the ground will be used for fruit planting.

The Clearwater Fruit Growers' Association at Grangeville, Idaho, has reorganized for another year's work.

Fruit growing is continually increasing in Northern Idaho, although alfalfa is as yet the principal product.

Water was recently turned into the Leesburg canal, Rio Grande, New Mexico, which irrigates 200,000 acres of land.

A lecture train on the farmers' institute plan will be run on the O. R. & N. railway starting from Pullman this week.

Montezuma Valley, Colorado, will soon open 75,000 acres to settlement. This is under a recently completed irrigation project.

The price of butter at Seattle, Washington, is much lower this season than ever before at this date. Its present quotation is 25 cents.

Sheep men of Washington have sent a delegate to Washington to plead for more favorable ruling in the forest bureau rules as to pasturage.

Fort Collins, Colorado, has a new irrigation scheme which involves the expenditure of $800,000, and which will irrigate over 300,000 acres.

Eugene, Oregon, has a civic betterment league which is creating a sentiment toward planting of shade and ornamental trees along the streets.

President Roosevelt has created another addition to the Grand Canyon Reserve by adding 1,288,320 acres of land to the Tonto National Forest.

Sheep men of Arizona who gather their flocks near Phoenix for the shearing season are reported to leave in that city over $100,000 each year.

The Utah State Bee Keepers Association is endeavoring to re-establish the bee industry where it was destroyed by the smelter smoke nuisance, since this nuisance has been abated.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

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YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland
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GUARANTEED ANALYSIS:
Protein 65%
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Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps No fertilizer ingredients in these Beef Scraps.

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Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

HATCHING WITH HENS.

"The best time to set a hen is when a hen wants to set."

THERE is now, and perhaps always will be, those who use hens for hatching their chicks, rather than the incubator. Without entering into any discussion as to the merits and advantages of atificial and natural methods of incubation, we will give a few rules to observe when using hens for hatching chicks.

Where to Set a Hen.

The quarters for the setting hen should be as comfortable as possible, and as convenient for those that look after the wants of the hens during the period of incubation. Remember the old saying "Whatever is worth doing is worth doing well." So, give the hens a chance.

Kill off the Lice.

We mean by this don't set your hen and leave her to be worried for three long weeks with lice and expect to get a good hatch. Have a nice clean nest, either whitewashed or sprayed with kerosene emulsion, then put in nice clean straw. If your house is a light one your nests should be darkened some, but not too dark. Your hens should have a run for exercise, for unless they have exercise they are apt to sit too close and a poor hatch is the result.

Keep Her Away from the Others.

If possible remove the setters from the laying hens, for if they have access to the same nests there will be broken eggs. So as far as possible, avoid all chance for trouble.

By all means keep the nests clean, as absolute cleanliness in the nests is a condition for good hatching. If a nest be fouled or an egg broken, it should be cleaned, the eggs washed in lukewarm water, the nest material removed and new nests made as soon as possible. It is a good plan when making a nest to sprinkle it well with a good insect powder, then give the hen a good dusting when the eggs are put under her. Again, about the middle of the hatch, then a good dusting a few days before the hatch and in this way you will not be troubled with lice.

Care of Setting Hens.

If you find it necessary to confine the hens to the nests, and you will unless you are absolutely certain they will not leave them, they should have an opportunity to leave the nest within 24 hours after being set. In case they do not come off of their own accord take them off, for unless you do they are almost sure to foul the nest.

If your hens are inclined to be wild and easily excited, let them off just before night, they will eat and take exercise and be ready to go back just as it begins to get dark and will return often of their own accord. After you have let them off at this time for several days and they are beginning to get used to their new quarters, let them off a little earlier so they may have plenty of time for food, and to take a good dust bath.

Food for Sitting Hens.

Sitting hens should be fed only on whole grain. We never give our hens a mash. Neither do we feed much green food. Whole corn is best food for them. We never feed fir or Egyptian corn, as it kee bowels too loose. Provide ple fresh water and grit. Treat kindly and you will have no t and be very careful not to them when hatching, as then th more excitable, and if they b scared at this period they d make as good mothers.

STATE FAIR PREMIUMS.

The writer has been favored a proof sheet containing the pre list of the poultry department f coming State Fair which will b at Sacramento the first week September.

The directors certainly have very liberal in placing such a amount for poultry, and ough bring out a large entry. We this is a larger sum than is giv any State Fair association for try.

Sweepstake Prizes.

There is also a special of $15. best display in any single v comprising not less than 25 mens. For best display by one bitor in American, Asiatic, Me ranean and English classes; $ for first and $5.00 for second, $5 for best display of ban games and ducks.

Last year the association bui new poultry house, which is one the best ventilated and lighted pou try houses on the coast; this, w the generous cash premiums amo ing to over $3500.00 ought to br out one of the largest entry made in California. The premiu for all recognized standard variet will be $2.50 for first, $1.50 for ond and 50 cents for third. T will be given on cock, cockere and pullet, with $4.00 for first, $ second and $1.00 for third on br ing pen, consisting of one male four females.

The entry fee for single bird be 50 cents each for first ten 25 cents for each additional bir $1.25 for each breeding pen. will include coops, feed and during the fair; all birds w cared for by the superintende returned at close of fair.

Now, Mr. Fancier, the asso is doing its part and it is up to bring out your birds and this show one of which the will be pround.

AROUND THE YARDS.

It is not best to keep eggs than two weeks before incu and the fresher the better.

* * *

Eggs intended for inc should be kept in a dry place temperature of about 40 to grees.

* * *

Only well formed, smooth eggs should be set, for rough gular shells are not so strong, they are set the breakage wi greater.

* * *

Eggs that have been shipped be allowed to stand for 24 hour ter being received. This will the contents of eggs to regain normal condition.

* * *

Never put more eggs under a

White Leghorns
The Kind That Pays

breeding birds I each year select r of my handsomest, earliest de- pullets and trap nest them dur- entire first laying year. The ason from these I select only ving satisfactory laying records. reeding pens are only hens of vorth in their second and third ınd no bird that has ever shown of disease. Each pen mated ens to one handsome cock. I be- ere is not in California a hand- r better lot of birds and few as an furnish eggs for hatching ese birds at $1.50 for 15, $7.50 per 0 per 1000. Let me book your w.
ndence solicited.

S. E. Gregg
Adams St. Riverside, Cal.

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esbury Ducks

ers at Crystal Palace and eading shows in England.
ıt the State Fair, San Jose and Oakland, 1906.
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eeder of Buff and Black Orpingtons and Barred Plymouth Rocks.

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the late Oakland show 1 Silver Cup, 8 ond, and 1 third prize with 8 birds.
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ıber of Commerce Bldg., Los Angeles

ıllivan's Buff Orpingtons 1908

ıonwealth Strain leads them all! Show ver equalled on the Pacific Coast. Prices lowest, quality considered. Stock and ale. Hundreds to select from.
Mr. and Mrs. W. S. Sullivan
Agnew, Santa Clara Co., Cal.
ne Throw from Depot.

ldwin's White Leghorns

ırizes San Jose '06, and State Fair '07
ree 1sts and special, San Jose, '07.
s, three 2nds and $50 Cup best display Petaluma '07.
for free '08 Catalogue and price list.
Frank E. Baldwin
hington Ave. - San Jose, Cal.

HOMERS
Prolific Breeders
Winner of 1st pen at Breeders' Show
Satisfaction Guaranteed
C. E. Bunker
San Jacinto, Cal.

e Wyandottes Exclusively
te, Typical Birds. Stock and Eggs For Sale.
W. A. SEYMOUR
audry Ave. Los Angeles Cal.

than she can cover; if she be small or close feathered 11 to 13 are enough; if large and full feathered you can put 13 to 15. I never put over 15 unless they be bantam eggs.

* * *

Trim the Comb.

Will trimming a pet game cock's comb disqualify him for exhibition purposes?—"O. L."

All game and game bantam cocks except Cornish Indian should be dubbed before being exhibited. Care should be taken to do a nice, smooth job, as neatness is considered by the judge.

* * *

What is the Matter?

Kindly tell me through your paper what may be the matter with my chickens. They are Plymouth Rocks and die one by one from a disease which begins with the chicks going lame on one leg. Within two or three weeks this gets worse and the chicken lies down and dies. Almost to the last day the affected chickens have the best of appetite and bright red comb and look as healthy as possible, except that they cannot walk. I cut open several of them and found a peculiar white growth inside under the backbone. Ever since I had these chickens, which is two years, I noticed that they at times seem to be weak in the legs. Some of them seem to get over it, however; I lost several dozen from the disease. It does not affect roosters, only hens. The flock has a run over five acres of land and gets all the green food they may want, besides green food and meat and plenty of fresh water and gravel. Last year I got new roosters for the whole flock, but it seems that this did no good, because it is worse this year than ever.—R. S., Redwood City.

We are unable to tell what ails your birds; the fact that they have such good appetites till last would indicate intestinal worms, but worms would not cause them to go lame. Did you ever open intestines and look for worms?

Can any of our readers give us any light on the subject. We have shown this letter to several poultrymen, but they were unable to tell what was the matter.

* * *

Incubation.

I have a hot air machine (1906 Cyphers.) Do you think they need extra moisture as Mr. Ironmonger advises for duck eggs in Cultivator, Feb. 21, 1908? I find I have the best hatches from turkey hens if they are set on the damp ground, but I do not know enough about incubating to give the eggs more moisture on my own judgment. Is it necessary to keep the large end of the egg up in the incubator?—Subscriber.

Turkey eggs are treated same as hen's eggs in incubators; [illegible] they are easier to hatch than hen's eggs. It is not necessary to keep eggs on small end during incubation. Incline them same as hen's eggs.

* * *

Chick Queries.

Please gvie information about feeding young chicks, also brooder house temperature.—G. C. R.

See article in February 6, page 641.

FOLKS IN RUTS.

Th' world is full of ruts, my boy,
some shaller and some deep;
An' ev'ry rut is full o' folks, as high
as they can heap.
Each one that's grovelin' in th'
ditch is growlin' at his fate,
An' wishin' he had got his chance
before it was too late.

They lay it all on some one else, or
say 'twas just their luck;
They never onct consider that 'twas
caused by lack of pluck.
But here's th' word of one that's
lived clean through, from soup t'
nuts;
Th' Lord don't send no derricks
'round t'h'ist folks out o' ruts.

Feed the Chicks and Kill the Gophers

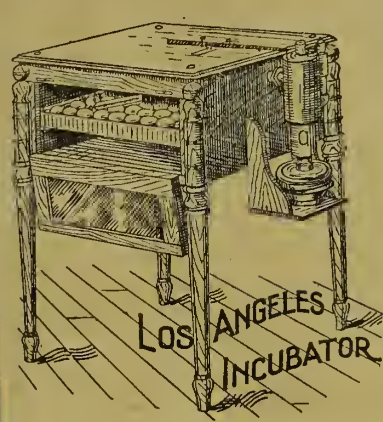
West Coast Chick Feed

A full, rightly balanced ration for the little ones, to be fed dry. All pure feed, no filler, no waste. The biggest seller because the best made. Keeps them growing and healthy. For sale by many dealers; if not by yours send direct to us.

Bille's Gopher Poison

is most attractive to gophers, squirrels, etc., but sure death. Endorsed by Agricultural Colleges and Experiment Stations. Has had the greatest success for years in the Middle West, and also here in California last season. Circular with many testimonials and Affidavit of 201 killed in one day. If your dealer hasn't it, send $2.50 for two bottles, (not less than two) express prepaid by us. Money refunded if not as represented—so printed on the bottle.

WEST COAST MILL
818-826 San Fernando St. (Through to Alameda) Los Angeles, Cal.



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ABOUT HATCHING WHEN YOU BUY A
Los Angeles Incubator
THEY ARE GUARANTEED
OPAL INCUBATOR OIL
5 GAL. $1.50
10 GAL. 2.90
GET OUR FREE CATALOGUE
Henry Albers Co., 534 So. Main, Los Angeles

5,000 MEN OUT OF WORK

Can feed a few hens on the scraps from the table and have eggs for the family every day in the year—but

Little Chicks should be fed on **Excelsior Chick Food**

prepared from clean, sound grains, seeds, beef scraps and charcoal in proportions to make a well balanced ration and produce strong, healthy chicks and keep them continually growing. For sale by all dealers and grocers. Take no other.

Excelsior Cereal Milling Company
242 Central Ave., Los Angeles

CROLEY'S *Meat Scraps* *Meat Scraps*
No Hair **$3.00 per Sack** *No Hoofs*
Geo. H. Croley - Petaluma, Cal.
Croley's Green Bone, $2.50 per Sack

Starbuck's Barred Plymouth Rocks
We trap nest our hens. Why set from poor layers? Bird laying qualities are inherited the same as any other. This year we have discarded all old matings and have gone to the next generation. Cocks have 9 generations of 200 egg mothers. Hens all from 200 egg mothers and from cock with 6 generations of 200 egg mothers, and are laying fine. We have divided into pens according to the way they are showing up in six months laying. $2.50 for 13 eggs from first pen. $1.00 from 2nd. until they have time to make longer records. (Except from our one best. not for sale. We claim the world's Barred Rock, 6 months laying record for this one.) Do you wish to hear about our prize winning Buff Orpingtons and Silver Wyandottes? We have something to crow about. No Sunday sales or visitors. ***Wm Starbuck & Son. Fullerton***

White Wyandottes Exclusively
Our strain have won in strong competition on the Pacific Coast
Day old Chicks, Incubator lots our Specialty, $15 per 100
Booking must be made in advanee. *Stock and Eggs For Sale.* Send for our new Catalogue
GEORGE W GRACE & SON. RURAL 21 CAPITOL AVE. BOX 98, SAN JOSE, CAL.

WHITE AND BUFF WYANDOTTES
And Golden Sebright Bantams, prize winners
Stock and Eggs in season
M. E. Dillingham, Box 67 San Gabriel, Cal

S. C. Rhode Island Reds True Red Yards
Four pens, headed by Red Ranger, Red Flame, Red Scout, Red Cloud. Eastern winners. Eggs, standard utility, $1.50; select fancy, $2 for 13: utility stock $2. A. B. WHITE, DOLGEVILLE, CAL.

"SUCCESS" INCUBATORS

and brooders are made from the very best materials obtainable. No machine at any price can beat them hatching. See them in operation at our store. We use them to hatch thousands of chicks every week. See the great Success brooder. The heater is the greatest invention ever made on a brooder. Catalogue is now on the press, send for it. Poultry lectures and other useful information for you. Written especially for us by California's best writers. Prices on Success Incubators and Brooders will astonish you. None can beat the price or the goods.

Investigate! That's all I ask. Get the best while you are at it. You will succeed with the "Success"

We Pay Freight

612 Egg Size, $40 340-Egg Size, $30
260-Egg Size, $20 130-Egg Size, $15

Send for catalog and free trial offer

E. E. McCLANAHAN
711 So. Main, Los Angeles

Use Coulson's Special Dry Chick Food and Insure Success

Two-Weeks-Old Chicks fed on Coulson's Special Dry Chick Food

For Sale By
Coulson Poultry and Stock Food Company
Petaluma, Cal.
Send for our Free Book, "Poultry Feeding for Profit"
Germain Seed Co., Los Angeles
Distributing Agents for Southern California

Mammoth Bronze Turkeys One and Two Year Old Hens and Early Hatched, Well Matured Toms For Breeding
Well Bred, Carefully Selected Cockerels Good Style, Good Size, Pure White Birds S. C. White Leghorns Eggs for Hatching, Any Quantity Write your wants.
No trouble to answer inquirers. Satisfaction guaranteed.
Stuhr-Williamson Poultry Company
378 Bandini Ave. Home Phone 149 Riverside, Cal.

Black Langshans Well, we won again at Los Angeles. Two firsts, one second, one third on five birds shown. Best stock ever in show room in California. Eggs, $2.00 to $5.00 per 13, $10.00 to $20.00 per 100.
White Rocks Large and vigorous. Improve your stock with a setting or get a fine flock with an incubator lot. Eggs, $1.50 to $2.50 per 13, $8.00 to $12.00 per 100.
S. C. White Leghorns Order eggs now, we have plenty of them. Have had all winter, great big white ones. Eggs, $1.00 to $2.00 per 13, $6.00 to $10.00 per 100.
Phone East 915 Foster's Poultry Yards, 128 W. Avenue 41, Los Angeles

WATERMELONS FOR PROFIT.

The watermelon as a food for man dates back to the remotest times. Egyptian inscriptions of it is as of high antiquity. It is said to be a native of tropical Africa, from which locality its culture gradually spread to Asia Minor, India and the Mediterranean.

Soil for Watermelons.

Best soil conditions generally described is a rich, sandy loam. There is, however, many varieties of this soil, the best is what is termed decomposed granite, such as compose most of the California mesa lands. The soil formed of decomposed sandstone is the poorest, as in that case there will be a lack of phosphorus and potash, both of which are highly essential to the growth of a good watermelon. Where the soil is too rich in nitrogen, the melons will have thick rind, the flesh will be coarse and stringy, besides lacking in flavor and sweetness. Heavy soils are very likely to be productive of mildew destructive to the leaves and vines.

Time of Planting.

As watermelons are of tropical origin, the atmospheric and soil warmth must correspond closely to the conditions prevailing at the tropics and subtropics, otherwise the seed, if planted, will rot if not sprouted before planting. Even if sprouted, the plant will chill and die if too cold, if the soil temperature does not reach 70 deg. at least once in 24 hours, the plant cannot live and thrive.

The earliest successful planting in California is about the 15th of March, and that early only in the most favored sections, and then with favorable weather. Shallow planting should be the rule. With early planting cover with about one inch of damp soil, press it gently, and afterward with the hoe throw over the pressed surface a half inch of loose earth, and this will prevent it drying out.

Varieties to Plant.

For many years the Georgia rattlesnake watermelon was the favorite of the Pacific Coast. Next came Kalb's Gem; it met with some success, but soon dropped out of the race. The Sweetheart and the Cuban Queen came and shared the fate of the above, as did Kleckly Sweet and a host of others. Rattlesnake still held the field when the Chilian burst into the melon world, and in one short season proved its supremacy. This was eight years ago. But every living thing is the natural parent to its successor, so out of the Chilian evolved the Angeleno, a melon that promises to claim the field as its own inside of the next few months. For shipping, plant the Angeleno, Chilian, Rattlesnake and Kolb's Gem are favored in the order named.

For the home garden, plant Angeleno Chilean Klecksley Sweet Phillipino and the Sweetheart in the order named. For an early good melon plant Flordia Favorite. Do not plant earlier than here advised or the chances are ten to one that the plants will be destroyed by the aphide.

Do not forget to bluestone your seed. To omit this is to invite disaster.

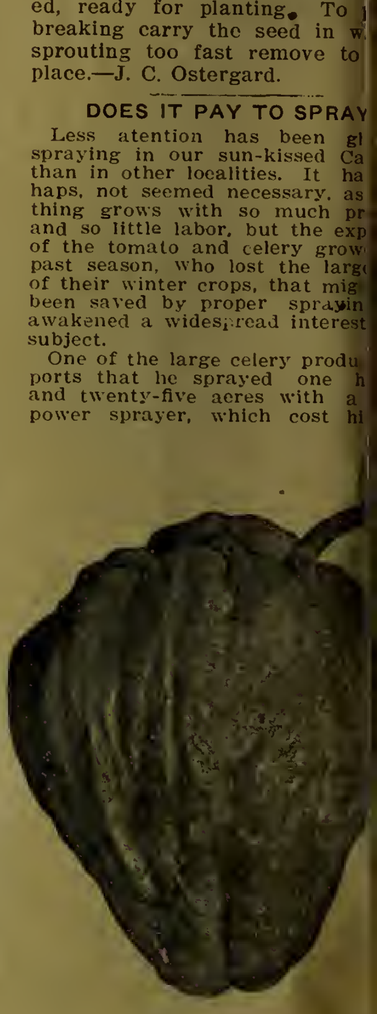
Mode of Sprouting Melon Seeds.

Dig a square hole about eighteen inches deep, make a small fire in it. When it is well started add small pieces of wood until the hole is nearly full, as soon as it ceases to smoke cover the red coals over by putting a barrel head over it. Do this in the morning, at the same time put the melon seed to soak in warm water. Place in a warm spot. In the evening pour a bucketful of warm water into the hole. Feel with the hand that it is not too hot. If it is pour in a
cold water as is needed. Wh
soil feels blood warm, put yo
in bags—stocking leggings w
and place in the hole. Pour in
warm water to cover the bag
put in a suitable piece of boa
piece of tin over the bags, fill
dry bags or old clothes, or ev
the ground, cover tightly with
Next morning get another bu
of warm water, and pour ov
seeds. Cover as before, repeat
evening, cover well. Next m
the seed will be found nicely
ed, ready for planting. To
breaking carry the seed in w
sprouting too fast remove to
place.—J. C. Ostergard.

DOES IT PAY TO SPRAY

Less atention has been gi
spraying in our sun-kissed Ca
than in other localities. It ha
haps, not seemed necessary, as
thing grows with so much pr
and so little labor, but the exp
of the tomato and celery grow
past season, who lost the larg
of their winter crops, that mig
been saved by proper sprayin
awakened a widespread interest
subject.

One of the large celery produ
ports that he sprayed one h
and twenty-five acres with a
power sprayer, which cost hi
than $25.00, and that he was the
one in the district that saved his
which he sold for more than d
the price prevailing before the
attacked the plants.



THE CHAYOTE.

In raising any crop one-
three-fourths of its cost is i
and if the other one-fourth is gi
pests, there will be no profit.
ance against possible loss by
considered good business
spraying is not insurance a
possible loss, but a loss that is
to occur season after season.
been frequently demonstrated b
mercial growers in New York
that there is an increase of fo
cent in the weight of a crop
toes that has been sprayed
three times, and the culls redu
very small item. Strange as
appear, this large gain is mad
where no blight has appeare
treatment apparently having a
lating effect upon the plant
tubers.

Spraying is not expensive a
believe, either in the cost
Sprayer, chemicals or labor,
investment of capital can m
larger return in profit. The
of vegetables are aggresive, in
and energetic; they must be
with intelligence and persiste
do effective spraying, one h
course, to understand the pe s
diseases to be eradicated, but
tenths of the injury is done by
few insects and diseases, and it
a difficult matter to learn how t
cessfully carry on the warfare
"Watch and Spray" is the n
that should be conspcuously b
every intelligent grower, as it is
by giving close attention and in
gent spraying at the right time
oughly and as often as directed.
a sprayer adapted to the purpose
good results may be obtained

The Goulds Hand and Power Sp
ers advertised by the Smith-
Usher Co., on page 296, are consid
standard by growers everywhere
are strictlly high-grade, dur
strong and built right.

The Smith Power Sprayers
been in use for many years in th
cality, and we hear nothing but
cellent reports from those who
used them.

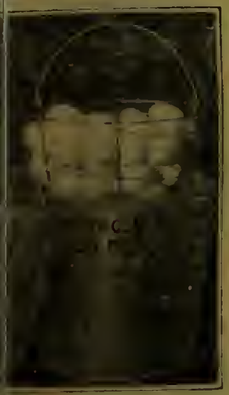
Old Harness Like New

Keep your harness pliable and lively with Eureka Harness Oil, and no matter what its age, it will be good as new

EUREKA
arness Oil

ı positive benefit to leather—
thing injurious in it. Gives
fine dressy appearance every
ness should have. Made by
STANDARD OIL CO.
(Incorporated)

d Famed Water Glass for Egg Preserving



Water glass for this purpose must be pure in quality and the correct density. This glass has been specially imported for this purpose and we guarantee results.

wi l preserve 150 eggs and dollar tins
Full particulars post free.
ıl egg preserving buckets with wire cage,
arger sizes, prices on application.
ger Water Glass Department
'u7 So. Spring St., Los Angeles

TTLE CHICKS

st from the Incubator of the
llowing varieties and prices:
ck Minorcas, $10 per 100;
hite Leghorns, $8 per 100.
ıese are all from first class
ock None better at any price.
e guarantee safe delivery any-
here we can reach within 72
urs of San Jose.

J. S. Smith
San Jose, Cal.

L PROFITS
ved in Poultry

best hatcher is Cyphers
roved so by beginners, ex-
Agricultural Experiment
rite to prove it by our
$12-page Book, illustrates what
others are doing towards making
Big Profits. Money-Back Guarantee.
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Chicago, K. City, Oakland, Cal., London

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Eggs From Prize Winners
t Pen $2.00 per Sitting
ond Pen $1.00 per Sitting
hone East 444 245 Newland St
ohlander Los Angeles Cal.

T SAN GABRIEL EGG RANCH

hite Leghorn and Barred Rock Eggs for
c. $1 per 13, $5 per 100. Won 12 ribbons
reeders Show on White Leghorns. Prize
, $2 per 13. All hens in our breeding pens
ted, 2-years-old, and are great egg pro-

on & Johnson, San Gabriel, Cal.
iel Car to Masonic Home then 2 blocks South

LED AND STEEL PLOWS

Buy the Genuine South Bend Largest Assortment Plows for all work and soil

TT & COMPANY. Los Angeles, Cal.
for Catalog. 112-118 So. Los Angeles St.

Buff Leghorns

ıd stock for sale from the best place in
ia Nov 1908 nearly all prizes at Hanford,
and Petaluma, including 4 silver cups.
(0 per setting from select matings, $7.50
rom choice stock.

Lindgren Bros
igsburg, Fresno Co. Cal.

ıfall for Redlands to date
to 12.72.

Veterinary

Dr. R. T. Whittlesey, veterinarian, of 714 East Seventh street, Los Angeles, will answer questions in this department. In writing of sickness or injury to any animal be explicit in giving symptoms and particulars. Always enclose full name and address, but if assumed name or initials are prefered they will be used.

If an immediate mail reply is wished enclose $1.00 for such service, but for replies in paper, only, no charge is made if the answer will be of general interest.

Abortion in Cows.

Please inform me through the Cultivator what is the cause of cows being affected with abortion as it is getting to be a serious drawback in this locality. In many cases there are one-third and in some cases fully one-half calves six weeks or two months previous.—R. R., Grizley Bluff.

It may be contagious or non-contagious, but if there is a series of cases it must be looked upon as the former, in which case it is due to germs which may be heged and carried in the genitals of either the male or female.

The most thorough disinfection ot these organs as well as the stables and yards must be carried out.

The subject is a most extensive one and if you will write the Bureau of Animal Industry, Washington, D. C., asking for special bulletins on "Conagious Abortion in Cows," you will receive free literature covering the subject exhaustively.

Barrenness.

I would like to know if there is anything I can do for a cow that does not come in heat. Cow is in good condition. Been milking 12 months.—J. S. R., Gilroy.

Try an impregnator, they are usually successful. If you decide you want to try one we can send it from an instrument house here, cost will be $3 or $4, but will last forever.

Heaves.

What causes heaves in horses? Is there an absolutely harmless remedy or treatment that will relieve the attacks? I have a good work horse that would be a very valuable animal were it not for that affliction. Perhaps for three or four weeks he will seem almost free from the trouble and can stand work as well as any horse, then suddenly a violent attack will seize him. What kind of feeds will be best for him?—J. R. S., Bloomington.

The most frequent cause is the feeding of musty hay.

The relief must come principally through dieting. Feed the cleanest and best of hay and in not very large quantities; that is, the diet must be concentrated, more grain and less hay. Put two or three tablespoons of air-slaced lime in the horse trough every day, sprinkle the hay with the same. Don't water for an hour after feeding. Keep the bowels rather loose; green feed in small quantities when possible.

REVERSES.

Lady—But you should begin at the bottom and work up to succeed.

Tramp—Yep; but I never got a right start; even de trade I learned went just opposite.

Lady—What was your trade?

Tramp—I was a well digger.—Exchange.

WINSEL'S ANNUAL.

Chas. Winsel, one of the up-to-date seedsman of Los Angeles, is out with his "Annual Garden Calendar" which is his record winner. It is 72 pages and cover and full of good things for the garden, as the egg is full of meat.

The best part is the planting calendar, which fits California conditions to a dot.

Only One "BROMO QUININE"
That is LAXATIVE BROMO QUININE Look for the signature of E. W. GROVE. Used the World Over to Cure a Cold in One Day. 25c.

Dimes Or Dollars

A hen does well or poorly according as her food supplies necessary nutriment in right proportions. Doubtless you give a nutritious ration, but does the *larger part of it digest?* If not, your profits will be in dimes rather than dollars.

It is easy to see why this is so. The domestic hen is a captive; she is denied the privilege of selecting food at times and in ways that Nature meant she should. Man attempts to coax and cajole her into laying many eggs under these unnatural conditions, and it is evident there can be little success until natural conditions are restored as far as possible.

If you make the hen derive from her food the same elements she would get when at liberty, your end is gained. This can be *largely* brought about by giving once a day a small portion of

DR. HESS
Poultry PAN-A-CE-A

It is the prescription of Dr. Hess (M.D., D.V.S.) and according to the testimony of expert medical men, contains the elements necessary to make the hen *digest perfectly* by far the greater portion of her food, and to *derive from it* increased power to produce bone, flesh, feathers and eggs. Poultry Pan-a-ce-a contains also iron for the blood and nitrates to expel poisonous matter. It makes young chicks grow fast and fits fowls for market in the shortest time. It is also a germicide and prevents roup and other poultry diseases. Endorsed by poultrymen in United States and Canada. Costs a penny a day for 30 hens.

Sold on a written guarantee.

1½ lbs. 35c; 5 lbs. 85c; 12 lbs. $1.75
25 lb. pail $3.50

Send 2 cents for Dr. Hess 48-page Poultry Book, free.

DR. HESS & CLARK, ASHLAND, OHIO,
Instant Louse Killer Kills Lice.
THE PETALUMA INCUBATOR COMPANY
Petaluma, Cal. Pacific Coast Distributers

INCUBATORS

FREE—100-page book, contains 250 pictures and much valuable information in regard to poultry. Tells about the Old Trusty Incubator and Brooder, which are the LOWEST PRICED reliable Incubator sold today. Free trial offer and the most liberal guarantee made by any company.

Right now is the time to investigate and don't buy any Incubator until you see this catalogue. Write to me today.

E. E. MCCLANAHAN 711 So. Main St., Los Angeles, Cal.

Doke Chick Feed is The Pioneer Chick Feed

A Balanced ration made of pure grains (cracked), Seeds, Beef Scrap Charcoal. No grit no waste or bowel trouble in feeding this feed.
Will send freight prepaid to any address for $3.50 per 100 lbs. Arizona points 50c extra.

Pioneer Hatchery 711 South Main Los Angeles, Cal,

Trap-Nested White Wyandottes

That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribons, all at Los Angeles County Poultry Ass'n Show, Dec. 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah.

Mission View Poultry Ranch Mrs. C. D. Hubbard **San Fernando, Cal.**

WINSLOWS REDS EXCEL Single Comb - Rose Comb RHODE ISLAND REDS Red Bantams Monrovia Cal RED FEATHER POULTRY YARDS

WINSLOW'S REDS The bird for the Farmer and Fancier.
Write for 1908 Mating list.
Red Feather Poultry Yards
Dr. C. E Winslow, Monrovia, Cal. Send stamp for Red Standard.

White Leghorns Buff Orpingtons
Black Minorcas
Partridge Wyandottes

Fresno Poultry Show, 1907, with 20 birds on display we took 14 prizes, four firsts. Young stock for sale. Eggs in season.
SCOTIA POULTRY FARM, Fowler, Cal.
Smith & Darling, Proprietors.

East Side Poultry Yards
Barred Rock and Buff Orphington Eggs

Chicks hatched to order. We have taken the utmost care in procuring pure stock, also selected by the "Hogan System". Visitors and correspondence solicited.

E. J. Look *No. 16 Hancock St. E. San Jose, Cal.*

Bronze Turkeys

Breeding stock and eggs for sale. Gobblers $5.00 to $10.00 each Hens $3.00 to $5.00 each. Eggs 10 to 25c each.

C. E. Bunker
San Jacinto, Cal.

When writing advertisers, mention Cultivator.

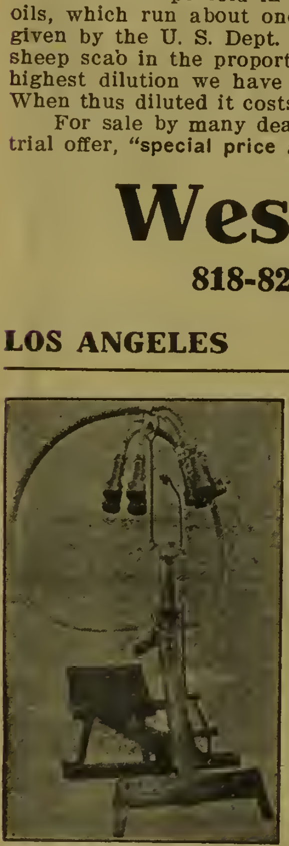
West Coast Cresol Dip

Strongest and most effective Germ Destroyer, Insecticide and disinfectant. Made of Coal Tar Creosote Oil. Great caution must be exercised in using Carbolic Dips and those that contain Petroleum oils. Reports in 1905 from Wyoming show that many sheep died on account of dipping in petroleum. Sulphur-Lime dips impair the quality of wool on sheep, and sometimes blind them. Tobacco dips very often sicken sheep. And none of these dips can compare in effectiveness with Cresol Dips. These, while being most effective, are perfectly harmless. Wool is improved by their use, as it not only cleanses the wool but leaves no stain and gives it a soft texture.

But Cresol Dips differ very much. A Coal Tar Dip depends for its activity almost entirely upon the Cresylic Acid it contains. West Coast Dip is guaranteed to be made from Coal Tar Creosote Oil containing 25 per cent Cresylic Acid. Most dips sold in the United States are made from domestic creosote oils, which run about one-half the strength of imported oil. Permission was given by the U. S. Dept. of Agriculture to use our Dip for the treatment of sheep scab in the proportion of one part Dip to 67 parts water. This is the highest dilution we have ever heard of being permitted by the Department. When thus diluted it costs but a trifle.

For sale by many dealers. If yours does not keep it, send direct to us for trial offer, "special price and freight prepaid."

West Coast Mill
818-826 San Fernando Street
(Through to Alameda Street)
LOS ANGELES CALIFORNIA



Milking Machines
that satisfy both the cow and the man are found in
Mehring's Foot Power Cow Milker
which have done successful work for six years in New York and two years on this coast, and, in fact, are doing practically the same work as some "power" machines costing six or seven times as much.
A. F. Steiner & Co.,
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The Lafayette Stock Farm
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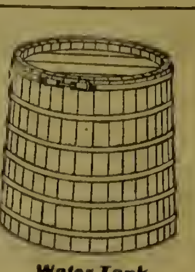

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Live Stock and Dair

MILK FEVER.

SEVERAL of the questions now waiting for replies are in reference to milk fever. The explanation of this disease is too long for the brief spaces afforded in the query column.

Milk fever has proven easy to prevent and easy to control. We no longer need dread its coming. The causes that produced milk fever are definitely known and prove to be readily controlable. If milk fever develops through carelessness the cure is simple, easily applied and inexpensive. Treatment must be prompt, however, before congestion has become deep seated to affect a cure. Milk fever is a disease confined largely to heavy milking strains of dairy cattle, cases are hardly known among range cattle.

The Range Cow.

The cow under nature's care has little to fear from milk fever. She drops her calf out in the field, then lies down quietly to rest until hunger drives her out to graze. Carefully and most thoroughly she hides away the tiny calf, yet never staying away long from it, if she is left undisturbed by the intrusion of rude men. These cows never overload their stomachs with heavy food, and the calf has its frequent little meals during the day time. The range cow has not a great flow of milk to distress her and the calf's small meals relieve any distention. There is no great or continuous pressure of milk on the mammary glands. The little milk the calf takes keeps things in balance for the cow. This is the natural cow under nature's kindly sway.

Dairy Cow.

The dairy cow is forced to a heavy milk flow by long years of heavy feeding and by the selection of the heaviest milking dams as mothers for the sires of the herd. This is an unnatural condition of affairs, and the civilization of the cow makes her nervous and fretful. When she calves she is, or should be, promptly secluded and as soon as possible left alone. The average dairyman will give the cow a mash of bran or of some patent cow drink, then hold the little calf up to nurse. This all starts the milk flow with a rush. When the udder fills, the milker tries to be "kind" and starts in by milking the cow out dry. The udder collapses on itsedf and a chill follows. The milker, when he has drawn the milk to the last drop, goes away whistling to his other duties thinking he has relieved the cow when he has reallly left her with a fighting chance for her life. The cow may survive, and in five cases out of six does, from this barbarous treatment. The sick cow is struck down with milk fever. Like a thief in the night comes this dread disease. In its suddenness it is appalling.

The Disease.

How does it act? Well! The cow that was seeming well in an hour will be found to be down and unable to rise. When forcibly stood up she sinks down again, she has lost all power in her hind quarters. Fever with delirium follow and the poor creature throws her head violently from side to side as she moans and groans. Later comes complete quiet or coma and death follows in twenty-four to forty-eight hours. Heifers never milk fever; it is a disease of th ture well-developed cows. For when a cow recovered from o tack the advice was always giv turn her off for beef. She w sidered to be a certain vict milk fever at her next calving

Cures.

The Germans have studied into this disease and finally f cure. They said it was ba contamination of the milk ce vesicles of the udder. Certain Schmidts did cure many se cases of the disease. The trea consisted of injecting the udder a sterilized solution of iodide of tassium. This was supposed to stroy the bacteria forming in th der and to destroy them. One a "vet" was called to a herd had three cows down with fever. The first two he injecte iodide of potassium making the tion, giving her the powder. becoming great, he told the d man's wife to prepare the third tion, giving her the powder. Th cow was duly injected and the day all were doing well. The er's wife handed him the pap powder saying, this is the p you left behind yesterday. He knew the third cow had res as promptly to simple water a others had to the iodide. The ca soon talked about and other doc related similar results.

Trials Proved.

The various experiment stat took up the work and found that medicine had no effect. Air then used and this was found to fully as effective as water. T causes of the disease was found careful study to be the result chill following a collapsed of the udder. The shock of followed by the removal of a fluid contents of the udder pr a condition, not easily explained disordered blood flow accompa with spinal congestion and lo motion. In some cases appo comes on to relieve the sufferer. Law, of Cornell, visited the d men of the Island of Jersey; told him they did not know the ease. He watched their meth handling a herd and found never milked out the newly cow until forty-eight hours calving. He asked, why? Was they had always been taught it not good to do so.

HOW TO DOCK.

The best time to dock lambs do it at the right time wheth employs the chisel and mallet, h et and mallet, knife or hot pi for instruments. Any of the struments will give good resul influence growth of the lam little if employed before the la over 10 days or two weeks of However, if the lamb gets four or weeks of age, docking may b sorted to, but danger from bl to death or interruption of grow may be expected.

To dock, one man should hold the lamb by its hind legs, back downward, and with its tail laid acro block he should draw the loose skin about the root of the tail toward the body of the lamb, while another cuts the tail off with a chisel and malle or hatchet and mallet. If a knife or

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hot pincers are employed the block is not necessary. The stub should be about one and one-half or two inches long. So soon as the tail is removed the skin should be let loose, which then slips back and partially covers the stub.

The lambs as they are docked should all be turned into a pen by themselves where they can be looked over every 20 minutes or so for a couple of hours, so as to give aid should any need it, to prevent their bleeding to death. Should any bleed hard after ten minutes the stub may be ligated with a piece of twine, or a red hot iron may be used to sear the wounds. Where lambs are permitted to go undocked until quite large, the twine ligature should be put on what is to be the stub before the tail is cut off. Then after the blood has clotted for two or three hours the string may safely be removed with a knife.

A NOTED HORSE.

The famous show stallion Kentucky Peak 6335, choked to death a short time ago at the form of his owners, J. R. Peak & Son, Winchester, Ill. Kentucky Peak was foaled in 1885, and was sired by Idol Wilkes, sire of J. H. L., 2:08¼, the sire of Ardelle, 2:04¼, dam Lady Rothschilds, by Rothschilds; second dam Black Rose, by Ericson 130. He was a horse with a great deal of speed, but no effort was ever made to develop, but in the show ring he could brush as fast as the record horses and was almost invincible as a ribbon winner. He won first premium at the World's Fair in Chicago in 1893, over a great field of the best show horses, but his greatest show ring achievement was at the World's Fair at St. Louis in 1904. He was then 19 years old, and he won the light harness stallion prize over the greatest array of show horses then on the tan bark. His winnings in the show ring total almost $12,000, a figure attained by a very small number of show horses. While no effert was ever made to train his get he is the sire of three standard performers. Few horses ever made more for their owners than did Kentucky Peak. The $12,000 to his credit was won simply as an exhibition stallion and not as a race horse, and only goes to show that there is money in good horses, and that it is not necessary to put them on the track, even though they be bred race horses.

A CONTEST OF CHAMPIONS.

The International Live Stock Exposition is the clearing-house of all the live stock shows of the continent. If a prize winner at other shows be of sufficient merit to have the slightest prospect of winning an International premium, it is sure to be there. The International show is, therefore, a contest of champions, and the ribbons won are held in the highest esteem. The students' contests originated by President J. A. Spoor of the Union Stock Yards, and enlarged upon by the generosity of Mr. J. Ogden Armour, are alone sufficient to place the Chicago International at the head and front of live stock educational institutions. The fat hog, sheep and cattle exhibits surpass anything else of the kind on the face of the earth. The Chicago International is the one show which no self-respecting stockman can afford to miss. The International show of 1907 opens on November 30th and continues to December 7th. Note the sales of pure bred cattle and sheep advertised in this paper.

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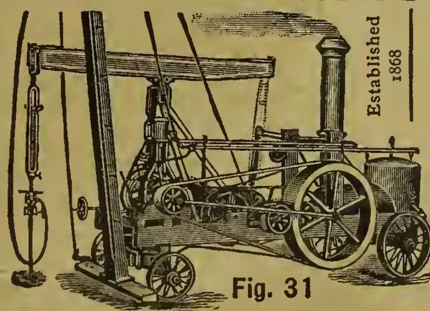

Fig. 31

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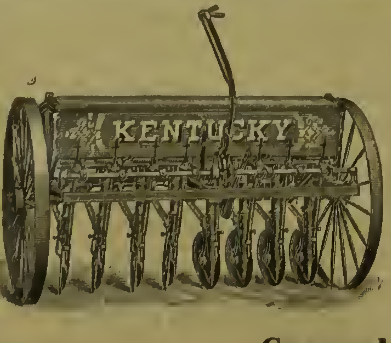

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Roselle or Jelly Plant

For some eight or ten years the culture of Roselle has been engaged in in California by certain gardeners, but its merits are understood by few. It is yet too early to plant, but none too early to call attention to this admirable addition to the garden. The writer has grown it for seven or eight years and not until last year was there any failure. At fruiting time last fall the continued warm rain caused mildew and a loss of part of crop and all of seed.

This year, Bordeaux will be used if moist weather comes at fruiting time.

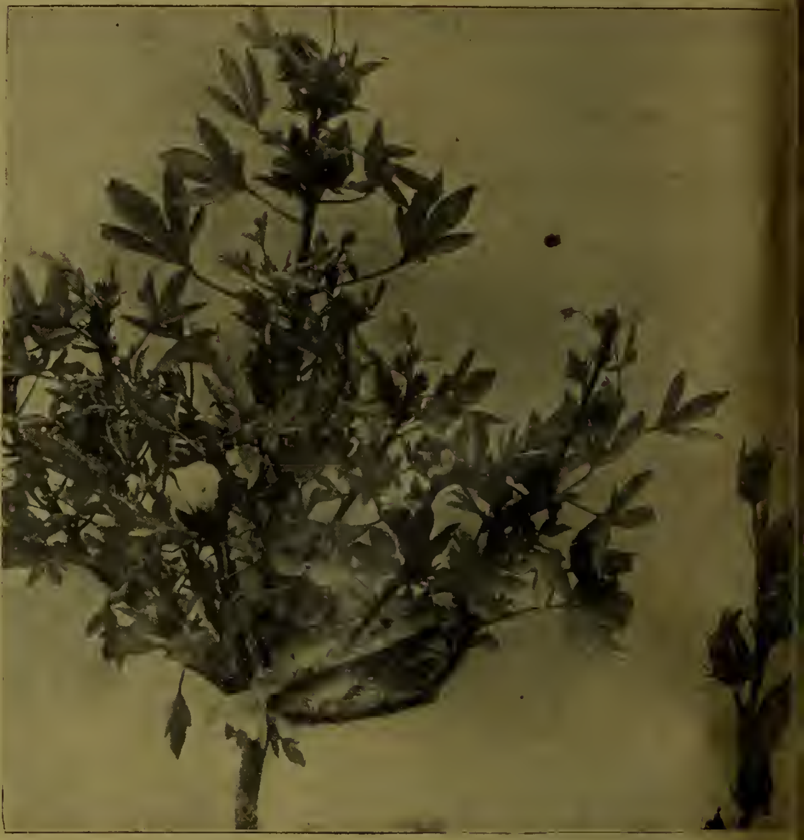
Regarding this plant a Department Bulletin says:

A strictly tropical plant, the roselle is very sensitive to frosts. This, together with its peculiar habit of blooming late in October regardless of the time when the seed is planted, has restricted the cultivation of the roselle to tropical and subtropical regions. Its distribution, for this reason, has not been so general nor has the plant become so widely known as introduced plants indigenous to the Temperate Zone. It is, however, only rational to assume that this objectionable feature could be overcome were persistent efforts made with that end in view and that the roselle, like so many other cultivated plants which have yielded to changed climatic conditions, would adapt itself to the shorter summers of a higher latitude.

Introduced several years ago into California and Florida, the roselle deserves a wider cultivation than it now enjoys and should prove a valuable acquisition to the tropical islands of the United States and to the Canal Zone. The cultivation of the roselle is so simple and its requirements so few that in the Tropics and Subtropics it should be an indispensable plant in the garden of every family. This fact, in view of its peculiar adaptability for jelly making, should cause the roselle to become a plant of considerable importance in the United States at no distant date. The roselle is probably the only plant in cultivation in which the part utilized for food is the calyx. Of rather low nutritive value, the thic
calyx possesses excellent qualti
the manufacture of jelly and
products. Preparations made fr
closely resemble in color and
those made from the cranb
is rather singular that its se
maturity also coincides with
the cranberry.

In Queensland, where the
of the roselle has in recent y
sumed considerable proportio
fruit is utilized largely in the
facture of jam. In the United
its principal use would probably
a substitute for cranberries in
household and in the manufact
jelly.

The habit of the roselle is
to that of the cotton plant;
is reddish, branching profusel
usually planted—that is, in Fe
and March—the roselle at
height of from 5 to 7 feet. The
on the young plant are entire,
plant increases in size the
change to palmately five pa
ter, the leaves in whose a
flowers are borne are three
The large, almost sessile
flowers, each with a red eye
ally borne singly in the ax
leaves. They fade befor
day is past and the subseq
largement of the calyces
very rapid. In less than thr
they attain their full size
ready for picking. If the
we may so call it, is not
and the seed is allowed
the plant dies early in
There are in the axils of th
several latent flower buds.
the calyces are picked as
they are full grown these
velop and the productivity
plant is greatly increased



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BERRY PLANTS.

FOR SALE—BLACKBERRIES—2000 GOOD Crandalls, everbearing. To close out quick, $15.00 for the lot or will exchange for Acacia melanoxylon, three to four feet. H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

WANTED—ONE-YEAR OLD LOGANBERry plants. Address P. O. BOX 2697, Fresno, California.

FOR SALE—3000 CRANDALL'S BLACKberries, fine plants at $10 per 1000. 1000 grafted field grown roses all the standard sorts at $15 per 100—the strongest rooted stock ever offered. H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

FOR SALE—BRANDYWINE STRAWBERRY plants, Kellogg stock, untrimmed, $2.50 per thousand. Call or address J. W. ROE, East San Gabriel, Cal.

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FOR SALE—ROSES, FIELD GROWN AND grafted; two-year-old plants. Will sell in large lots at a bargain before potting them. H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

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FOR SALE FOR $1750—AN UP-TO-DATE chicken ranch. Five hundred Rhode Island Reds. Well advertised. Good paying business in best inland town in State. If interested address "THE RED" care of Cultivator, 115 N. Broadway, Los Angeles, Cal.

FOR SALE—GOOD 20 OR 30-ACRE RANCH, improved; three-room house; pumping plant; small orchard; plenty wood; in good location. This place will be sold cheap on long time. Address C. E. GARRETT, Hynes, Cal.

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PROTEST OF THE PINES.

List to the pine trees' plaint, we pray, ye thoughtless men of the town;
What boots your lesson of Arbor Day when at Christmas ye cut us down?

We stand, close arrayed, in the pure, crisp air, on the mountain's rock strewn side.
And yet ye would strip all the slopes so fair, and lay us low in our pride.
The young and the straight ye would slay and slay, to deck in a tinsel gown—
What boots your lesson of Arbor Day when at Christmas ye cut us down?

In our wind-swept home we wax strong and tall, as we nod through the summer days;
A-swing in our branches the wild birds call, and the squirrel in our deep shade plays;
And yet your dread ax at our roots you'd lay, and the hills leave bare and brown—
What boots your lesson of Arbor Day when at Christmas ye cut us down?

The winter snows but serve to show our clothing a deeper green;
No blast that the king of storms can blow, bites us with its frost-fangs keen;
The wolf and the deer pause on their way, and rest 'neath each swaying crown—
What boots your lesson of Arbor Day when at Christmas ye cut us down?

So leave us untouched on our hillside home—drag us not into Yuletide joys—
For what can a pine tree, torn from its loam, mean unto your girls and boys!
Rather teach them to worship us here, we say, where the Hill Gods smile and frown—
What boots your lesson of Arbor Day when at Christmas ye cut us down?

List to the pines trees' plaint, we pray, ye thoughtless men of the town;
What boots your lesson of Arbor Day when at Christmas ye cut us down? —Denver Republican.

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Yep, the other place got too small after pepul got onto that 1908 Model. Yep, that's the one where you can see the feed valve. Bulsy[Well, I guess, we are; keeps me busy rolling em out on the walk to the dray.
Simple to operate? Well, yea'ss I should say so; sold one to a Widder woman whos boy don't know how to eat with a knife and fork, but he can charge the machine all right. So long! You fix it up, tell em all about Acetylene Gas. Oh tell em to come in and see us er elce rite.

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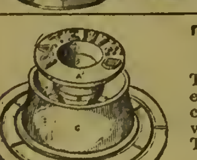

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Household Departme

THE GARDEN.

Plant a little pleasantness in the path of life;
Plant a little happy-heart in the fields of strife;
Plant a little smile-of-face on the windy heather—
Pleasantness and happy-heart, smile-of-face, together!

Plant a little kindly-deed in the toiling garden,
On the little window box, with its dolly-varden;
Plant a little helping-hand, till above the shadows
All its bloom of beauty smiles, June-sweet in the meadows!

Plant the seed of cheerfulness up and down the street,
Cast on every barren life that you chance to meet
Helping-hand and kindly-deed, cheerfulness—till yonder,
All the world be glorified with the bloomy wonder!

—Baltimore Sun.

ENJOY THE GARDEN.

THE love of dirt is among the earliest of passions, as it is the latest. Mud pies gratify one of our first and best instincts. So long as we are dirty, we are pure. Fondness for the ground comes back to a man after he has run the round of pleasure and business, eaten dirt, and sown wild-oats, drifted about the world, and taken the wind of all its moods. The love of digging in the ground (or of looking on while he pays another to dig) is as sure to come back to him as he is sure, at last, to go under the ground and stay there. To own a bit of ground, to scratch it with a hoe, to plant seeds, and watch their renewal of life,—this is the commonest delight of the race, the most satisfactory thing a man can do.

Let us celebrate the soil. Most men toil that they may own a piece of it; they measure their success in life by their ability to buy it. It is alike the passion of the parvenu and the pride of the aristocrat. Broad acres are a patent of nobility; and no man but feels more of a man in the world if he have a bit of ground that he can call his own. However small it is on the surface, it is four thousands miles deep; and that is a very handsome property. And there is a great pleasure in working in the soil, apart from the ownership of it. The man who has planted a garden feels that he has done something for the good of the world. He belongs to the producers. It is a pleasure to eat of the fruit of one's toil, if it be nothing more than a head of lettuce or an ear of corn. One cultivates a lawn even with great satisfaction; for there is nothing more beautiful than grass and turf in our latitude. The tropics may have their delights; but they have not turf; and the world without turf is a dreary desert. The original Garden of Eden could not have had such turf as one sees in England. The Teutonic races all love turf; they emigrate in the line of its growth.

To dig in the mellow soil—to dig moderately, for all pleasure should be taken sparingly—is a great thing. One gets strength out of the ground as often as one really touches it with a hoe. Antaeus (this is a classical article) was no doubt an agriculturist; and such a prize-fighter as Hercules coudn't do anything with him till he got him to lay down his spade, and quit the soil. It is not simply beets and potatoes and corn
and string beans that one rais
his well hoed garden; it is the
age of human life. There is l
the ground; it goes into the
and it also, when it is stirr
goes into the man who stirs
hot sun on his back as he
his shovel and hoe, or co
tively rakes the warm and
loam, is better than much
The buds are coming out
bushes round about; the blo
the fruit trees begin to sh
blood is running up the grap
in streams; you can smell t
flowers on the near bank; a
birds are flying and glanci
singing everywhere. To th
kitchen door comes the busy
wife to shake a white so
and stands a moment to look
transfixed by the delightful
and sounds. Hoeing in the
on a bright, soft May day, w
are not obliged to, is nearly
the delight of going trouting.

Blessed be agriculture!
does not have too much of
literature is fragrant with
gentlemanly way. At the f
charming olive-covered hills
oil, Horace (not he of Cha
had a sunny farm; it was in
Hadrian's villa, who did l
gardening on an extensive sc
probably did not get half as
comfort out of it as Horace d
his more simply-tilled acres
trust that Horace did a little
and farming himself, and tha
verse is not all fraudlent sent
In order to enjoy agriculture
do not want too much of it, an
want to be poor enough to h
little inducement to work n
ately yourself. Hoe while
spring, and enjoy the best nt
tions. It is not much matt
things do not turn out well.—C
Dudley Warner.

"GARDEN SASS" RECIPES

The writer is no vegetarian,
does believe our vegetable g
should be made more of. Fruit
vegetables should be made our
cipal diet in this State.

Let us look at a few recipes.

Beet Greens.

Beets are usually thickly
and as the young beet plant
to grow they must be thinn
The young plants pulled fr
bed make delicious greens,
larly if the root has attain
little size. Unfortunately,
years the leaves are attacked
sects; therefore they must
amined leaf by leaf, and al
are infested rejected. Do
arate the roots from the
Wash thoroughly in many
Put into a stewpan and cov
ously with boiling water.
teaspoonful of salt for ev
quarts of greens. Boil rap
tender. This will be abo
minutes. Drain off the wa
rather coarse, season with bu
salt.

The vegetable may be b
pork as directed for "Cab
pork."

Asparagus.

This delicious spring
should be treated very simpl
carefully.

Cut off the woody part, scra
lower part of the stalks. Was
and tie in bunches. Put into
stewpan, with the cut end r
the bottom of the stewpan. P

g water to come up to the ten-
eads, but not to cover them,
. teaspoonful of salt for each
of water. Place where the
will boil. Cook until tender,
g the cover partially off the
an. This will be from fifteen
irty minutes, depending upon
eshness and tenderness of the
ables. Have some slices of
oasted bread on a platter. But-
them slightly. Arrange the
d asparagus on the toast, sea-
ith butter and a little salt and
at once. Save the water in
the asparagus was bailed to
making vegetable soup.
ther method of cooking aspara-
to cut all the tender part into
pieces. Add boiling water
h to just cover the vegetables
lace where the water will boil.
until tender (about fifteen
es) season with salt and but-
nd serve in the greater part of
ice.
referred, a cream dressing may
rved with asparagus.

d Celery.

blanch celery in cooking, re-
all the leaves from the stalks.
off all rusted or dark spots,
nto pieces about three inches
and put in cold water. Have
pan of boiling water on the
ash and drain the celery and
the boiling water. Add one
onful of salt for every two
of water. Boil rapidly for
minutes, having the cover
ly off the stewpan. Pour off
ter and rinse with cold water,
rain. The celery is now ready
sh in the following manner:
e celery in the stewpan with
blespoonful of butter, and one
onful of salt for each quart of
Cover and cook slowly for
minutes. Shake the pan fre-
y while the celery is cooking.
hot.

Chards.

vegetable is a variety of beet
ch the leaf stalk and midrib
een developed instead of the
It is cultivated like spinach,
e green, tender leaves are pre-
exactly like this vegetable.
midribs of the full-grown
may be cooked like celery.

il Cabbage.

a small head of cabbage into
arts, cutting down through the
Soak for half an hour in a
cold water to which has been
a tablespoonful of salt; this is
w out any insects that may be
in the leaves. Take from
ter and cut into slices. Have
e stewpan half full of boiling
put in the cabbage, pushing
r the water with a spoon. Add
blespoonful of salt and cook
wenty-five to forty-five min-
pending upon the age of the
e. Turn into a colander and
for about two minutes. Put
hopping bowl and mince. Sea-
th butter, pepper and more
it requires it. Allow a table-
ul of butter to a generous
f the cooked vegetable. Cab-
ooked in this manner will be
cate flavor and may be gener-
eaten without distress. Have
chen windows open at the top
the cabbage is boiling, and
will be little, if any, odor of
e in the house.

Peas With Butter.

one quart of shelled peas in a
n and add enough boiling wa-
cover them generously. Place
ot fire and when they begin
to boil draw back where the water will bubble gently. Until the peas are done cook with the cover partially off the stewpan. When the peas are tender add one teaspoonful of salt and three tablespoonfuls of good butter. Cook ten minutes longer. If the peas are not the sweet kind add a teaspoonful of sugar with the salt and butter.

HOMELY HINTS.

Care of Brooms.

Brooms will last longer and give better satisfaction if they are taken care of.

They should be dipped in boiling suds once a week and then plunged into cold water to stiffen the straw. It stands to reason that a dust gathering implement should be thoroughly cleansed once a week.

Another good thing to do to a broom is to clip the ends of the straws when they become worn down. They will gather the dust better in this way.

Linoleum and Oilcloth.

Linoleum is made with a mixture of powdered cork, linseed oil, resin and a pigment pressed on burlap between heated rollers. The patterns are printed on it and it is then varnished.

Oilcloth is made by applying several layers of coarse paint to burlap or coarse canvas, finishing with finer paint, then painting on the pattern and finally varnishing. It can easily be seen that these cloths, finished as they are with varnish and paint, should not be washed with strong soaps or alkalis, and that a careful oiling now and then will surely be beneficial.

Oilcloths may be kept bright for years if properlly varnished each season.

They should never be scrubbed with a brush, but after being first swept should be cleansed with a large, soft cloth and cold or lukewarm water, in which has been dissolved a little borax, dip a flannel cloth in milk and with this wipe the oilcloth. Linoleum may be brightened with a little glue water.

Melt a little ordinary glue in water, apply with a flannel cloth. The linoleum should be clean and dry before rubbing it with the glue water.

Space in a crowded closet can be saved by using the patent hangers made for men's trousers, the little metal strip holding a dress skirt smoothlly across the front breadth.

Keep a bottle of linseed oil and lime water, together with a roll of absorbent cotton and pieces and strips of old linen for bandages, all in a convenient place to use in case of burns.

For burns.—For burns apply spirits of turpentine. It is easy to apply, and gives instant relief.

Remedy for scalded mouth.—In cases of scalding the mouth with hot liquid, gargle with a solution of borax.

A certain cure for ringworm.—Rub the ringworm three times a day with vinegar in which salt has been dissolved.

Turpentine for cuts.—For a severe cut or bruise apply cold turpentine; it will give certain relief almost instantly.

Care of the frying pan.—Always wipe your frying pan out with brown paper directlly after using and before washing, if you want to keep it nice and bright. An omelet pan should never be washed, but rubbed clean with brown paper

A stained sink.—Pour oxalic acid on spots, let stand a few moments, and the stains will disappear.

LAUNDRY NOTES.

Javelle Water for the Removal of Stains.

One of the best chemical reagents to be used in the laundry, and for cleaning purposes generally, is javelle water. It can be very easily made at home, if the following directions are carefully followed, and is not in the least expensive.

How Made.

Dissolve one pound of washing soda in an agate kettle or stone jar, in a quart of boiling water. Dissolve one-half pound of chlorid of lime in two quarts of cold water. When the dissolved portion has settled, carefully pour the clear liquid into the dissolved soda. Bottle and keep in a cool, dark place.

Kinds of Stains.

Stains which bother in the laundry are of three kinds, i.e., those caused by vegetable growth, those from actual chemical compounds, and those caused by deposit of small, solid particles.

Mildew is, perhaps, the stain which puzzles the housekeepere the most. It is the most common type caused by vegetable growth. When this stain is examined under the microscope, one can see a network of tiny tendrils which cannot be seen without the aid of the microscope. On the ends of some of these tendrils can be seen small cup-shaped organs, which hold small seeds or spores, which scatter over the cloth and start new plants. This is the way the mildew stains spread all through a garment. These little tendrils will, if given time, find their way through many layers of the material.

Oxygen will destroy the mildew plant, but it will thrive in a damp, warm place. To remove mildew from a garment, first give it a thorough airing and then place in boiling water. After it has been placed in boiling water, the character of the stain is changed and it is now a chemical compound, for the mold has produced a dye. A bleaching process has to be resorted to now to remove the stain. Soak the garment in equal quantities of hot water and javelle water until the stain disappears; thoroughly rinse in three waters; then rinse in water to which a little ammonia has been added.

In most all processes of bleaching an acid is formed which will weaken the fibers of the cloth and, if very strong, will destroy them, unless quickly neutralized by an alkali. Ammonia or washing soda solution are the best to use for this purpose. —Lotta I. Crawford, Assistant, Department of Domestic Science, Colorado Agricultural College, Fort Collins.

WHY HE WENT BELOW.

"I am sorry to say that you will have to step downstairs," said the guardian at the narrow gate.

"Why—why—" the poor soul stammeringly pleaded, "did you look at my Sunday record?"

"I did," was the response.

"Wasn't it all right?"

"Fine! You went to church practically every Sunday, I observe."

"Well, what's the matter, then?"

"Unfortunately I looked at the record of your other days, too, and it is a rule up here that no man can squeeze enough righteousness into one day to offest working hard at the other line of business during six days. There is some talk of revising it so that such people will be permitted to spend one day in heaven and the other six in the cellar, but until that is done, if it ever is, you will have to step below."

So the poor soul stepped.

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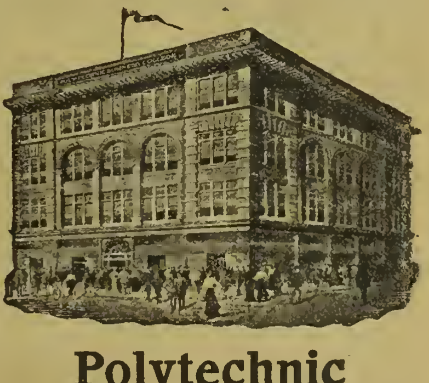

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The Produce Markets

Los Angeles Markets

Butter.

LOS ANGELES, March 11, 1908.—Butter has felt the influence of the beautiful weather as indicated by the liberal reecipts. The receipts have been so liberal that a decline of 5 cents has occured during the week. Even at present quotations the market is not strong.

Creamery ex per roll	52½
Firsts	50
Dairy	45
Cooking	30
Eastern	50
"Butterine"	15@20

Cheese.

California Anchor	18
Northern fresh	15½
Eastern singles	17
Imported Swiss	29@30
Tulare flats	18½
Domestic Swiss	19
Oregon	18

Eggs and Poultry.

Eggs are still declining and the daily receipt is now close to the maximum. Monday saw nearly 1000 cases received. However, under this heavy receipt the market is remaining fairly firm.

Eggs local candled	17¾@18
Eggs case count	15¾@16
Northern candled	18½

Most prices on live poultry have been advanced during the week.

Hens per lb	15@16
Young roosters per lb	15
Fryers	22
Broilers per lb	24@25
Roasters	18
Old roosters	8
Turkeys	15
Geese	13
Ducks	15
Squabs	1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds	5¾
Prime steers	4½
Heifers	4
Calves per lb	4½@5
Sheep ewes per head	4.75
Lambs per head	3.75@4.25
Wethers	5.50

Potatoes.

Highlands	95@1.05
Early Rose	2.00@2.25
Salinas	1.25@1.50
Sweet potatoes per sack	3.00@3.50
Sweets Northern	3.00@3.25
Oregons	1.50
Idaho	1.25
White Rose	1.50
Watsonvilles	1.10@1.15
New potatoes by box	1.25

Onions.

Australian Browns	3.50
Bermudas per crate	3.00
Oregons	4.00
Minnesota	3.60
Garlic	12
Ohio	3.50@3.75
Colorado	3.00
Nevadas	4.00

Vegetables.

Artichoke per doz	75@90
do Jerusalem box	75
Asparagus per lb	25@27½
Beets per doz	40
Bell peppers per lb	15@18
Beans limas per lb	10@12
Beans green	10@14
Beans Yellow	5@8
Brussels sprouts per lb	9@10
Cabbage sack	35@40
Celery per doz	1.25@2.00
Chili peppers per lb	3@7
Chives per doz	1.25
Cucumbers per doz	70@2.50
Cauliflower	90
Carrots per doz	30
Egg plant	8@10
Green onions doz bunches	20@30
Hubbard squash per lb	1@1½
Letauce per crate	50@75
Mushrooms per basket	1.75
Pie Pumpkins	1½
Peas sugar per lb	6@8
Parsley	30
Parsnips	35@40
Rhubarb per box	1.00@1.10
Radishes per doz	15@20
Salsify	40
Spinach per doz	10@25
Squash box	1.00
Turnips doz bunches	30
Tomatoes per box	1.25@2.00

Citrus Fruits.

Navels fy	1.60@1.75
Navels ch	1.25@1.50
Tangerines	1.50
Culls	40
Grapefruit seedless	2.50@3.00
Grapefruit seedlings	1 75@2 00
Lemons fancy	1.25@1.50
Lemons choice	1.00@1.25

Fresh Fruits.

Bellefleurs	2.00@2.25
Baldwins	1.50@1.75
Pippins 4-tier	1.50@1.75
W W Pearmains	2.00@2.25
Colorado Jonathans	3.00
Cal Ben Davis	1.75@2.00
Loquats per lb	9@10
Persimmons	5
Raspberries	25
Strawberries	5@11
Extra fancy	15

Dried Fruits.

Apricots	18@22
Evap apples fy per lb	11@12
Figs loose	7
Peaches	11½@12
Pears	16
Nectarines	16
Prunes	3½@5½

Beans Dried.

Limas per ctl	5.25
Pink No 1	3.65
Lady Washington	3.85@3.95
Small White	3.75@3.85
Black Eyes	4.50@5.00
Garvanzas	5.25@5.75
Lentils	12@12½

Nuts.

Almonds per lb	17½
Pecans polished	16@17
Peanuts Virgina	8½
Peanuts California	8½
Walnuts No 1 SS	16
Walnuts No 1 H S	14@15

Honey.

Extracted Water White	7@7¼
Comb W W	11@15

Hay.

Price paid to producers f. o. b. Los Angeles are as follows:

Barley No. 1	12.00@14.50
Barley No. 2	9.00@11.00
Alfalfa northern per ton	12.50@13.50
Alfalfa local	15.00@16.00
Plain oat No 1	14.00@16.00
Wheat No. 1	15.00@16.00
Wheat No. 2	11.00@12.00

Grain.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl	1.85
Wheat in 100-lb. sacks	1.90
Barley	1.50
Corn Eastern sacked	1.80
White oats	1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn	1.85
Shorts	1.70
Bran	1.55
Oil cake meal	2.00
Feed meal	1.90
Rolled barley	1.55

San Francisco Markets

Butter.

SAN FRANCISCO, March 10, 1908.—Large receipts cause a continual weakening in the butter market and almost daily lowering of quotations is the result. A 3 cent reduction has occurred during the week.

California extras per lb	24
California firsts	23
California seconds	21½
Fresh Packing stock	18½

Cheese.

California young American fy	13
California flats fy	11½
Eastern fy	17½
Oregon fancy	12½

Eggs and Poultry.

Eggs are steady, even firm under heavy receipts. A cent decline is noted during the week.

Fresh ranch eggs	16
Eggs firsts per doz	15½
Eggs second per doz	16
Thirds	14½
Hens per doz	4.50@6.00
Hens extra	6.00@7.00
Young roosters	6.00@6.50
Old roosters	4.00@4.50
Fryers per doz	6.00@7.00
Broilers per doz	5.00@6.00
Geese per pair	2.00@2.50
Ducks young	4.00@5.00
Turkeys per lb	14@16
Pigeons	1.00@1.25

Live Stock.

Steers No 1	8½@9
Do second quality	7½@8
No. 1 cows and heifers	6½@7
Hogs 80 to 200 lbs	5¾@6
Hogs 200 to 300 lbs	5½
Calves per lb	4@5½
Lambs	6½@7
Wethers No 1	5½@6
Ewes No 1	5@5½

Potatoes.

River Whites	50@75
Oregon Burbanks	75@1.00
Lompocs	1.00@1.35
Early Rose	1.25@1.35
River Reds	1.35@1.40
Salinas Burbanks	75@1.15
Sweets per crate	3.25
New potatoes per lb	3@5

Vegetables.

Artichokes Jerusalem per box	75
Asparagus per lb	17½@30
Celery per crate	1.00@1.25
Cucumbers per doz	65@1.50
Chili peppers uer lb	7@10
Bell peppers per lb	10@15
Beans Limas	12@15
Egg plant per lb	10@12½
Green peas per lb	8@12
Squash per box	50@1.25
Marrowfat squash per sack	60@75
Mushrooms	75@1.00
Hubbard squash per sack	60@80
Rhubarb per lb	7
Tomatoes local	1.25@2.00
String beans	12½
Garlic	10@12½

Onions.

Oregon yellow	3.00@3.15
Eastern	2.75@3.00

Citrus Fruits.

Navels fy	2.50
Navels ch	1.25@2.25
Grapefruit seedless	2.50@3.00
Lemons	1.50@2.50
Limes	3.00@4.00

Fresh Fruits.

Newtons	1.65@2.00
Spitzenberg	1.75@2.00
Pears winter Nellis	2.00@2.50
Pomegranates per box	1.00@2.50
Strawberries per crate	2.50
Aligator pears	1.75@2.00

Dried Fruits.

Apples (evap.)	6½@8
Apricots per lb new	15@19
Figs white	3½@5
Nectarines	10@13
Plums pitted	12@15
Peaches	9@11
Pears	8½@@10½
Prunes 4 size bag basis	3¼@4

Beans Dried.

Limas	4.40@4.60
Pink	3.00@3.10
Small white	3.60@3.75
Large white	3.00@3.10
Lady Washington	3.45@3.50
Black Eyes	3.25@3.50
Red Kidneys	3.20@3.40
Garvanzas	4.00@4.25
Bayo	3.00@3.10
Horse beans	2.25@2.40

Hops.

Hops per lb	5@6
Hops old fancy	1@1½

Nuts.

Nonpareil	13½@14
Ne Plus Ultra	12½
Walnuts No 1	13@13½
Hardshells	12@12½

Honey.

Clear white comb	16@17
Amber	12@15
Extracted	7½@8
Beeswax No. 1 per lb	26@27
Beeswax No. 2 per lb	23@25

Hay.

Somers and Co. say:

There has been a little increase in hay shipments during the week, the total showing 3320 tons in comparison with 2990 tons for last week. In spite of these rather heavy arrivals the market has maintained its previous range so no change in the matter of prices can be reported. There is a somewhat better feeling amongst the various merchants who although they can as yet report no increase in the volume of trade, yet most of them seem to anticipate an early improvement. This hope alone if it becomes general will result in improved conditions and as the hay business is particularily sensitive to general trade conditions, we may resonably anticipate a better condition of affairs here in the near future.

It is rather gratifying to learn that stocks are being rapidly reduced throughout the country, for in spite of the recent depression most of the principal hay centers report rather free shipments to many points throughout the interior. This is good evidence that the State is steadily growing and that many districts that a short time ago produced hay have now become consumers for this particular product. The aggregate demand from these interior towns has been considerable and has assisted materially in relieving the San Francisco market of what might otherwise have proved a most burdensome oversupply of hay.

Crop conditions are still most promising, and as grain values are very well maintained, it is expected at the moment that the grain crop will be a most excellent one and the hay crop one of good quality and probably not too abundant.

Choice wheat hay	15.00@16.50
Good wheat hay	14.00@15.00
Other grades same	11.00@14.00
Wheat & oat	10.00@15.00
Tame oat	10.00@14.50
Wild oat	9.00@12.50
Stock hay	7.50
Alfalfa	9.0
Straw per bale	

Grain.

Wheat No 1	1.5
Barley No 1	1.37
Corn large yellow	1.6
Oats white	1.52
Oats red	1.

Feed Stuff.

Bran per ton	29.0
Feed cornmeal per ton	35
Cracked corn per ton	36.
Rolled barley per ton	30.
Oil cake meal per ton	38
Cocoanut caks per ton	26.
Middlings	32.

Citrus Market

LOS ANGELES, March 11,

The orange market is exper not exactly a boom, but is feel impetus of the best of weather ditions all over the country. Ev auctions look better and quot at other markets indicate a sti ter tone.

All arrivals are in good condi yet, but the present warm weat this end may cause some though if it remains warm, pre and even icing may be brough use.

Lemons are strictly in the d Large quantities from this en heavy imports combined with er not as favorable as to orang caused a decline. The present tions are not expected to last

Shipments.

Shipments to date are 11 which 1589 were lemons. La same date 9157 cars, of whi were lemons.

NEW YORK, March 6.—F navels, one lemons sold. Nave er, strong and active. Lemons ly higher. Weather stormy ar favorable; snowing.

NAVELS—

Whittier T I W F Whittier
Crafton Red O G Assn
Sweetheart Highgrove Ft Ex
Eagle Highgrove Ft Ex
Butterfly Cov Ft Ex
Iris D M Ft Ex
Stag ACG Ft Ex
Pointer ACG Ft Ex
Cycle Filmore Cit Ft Assn
Cosmos SB Ft Ex

TANGERINES—

Stag ACG Ft Ex

LEMONS—

Rialto Girl Grs Ft Co
Rialto Girl Grs Ft Co
Sunshine J F Bowen

PHILADELPHIA, March 6.—F cars of navels, three mix lemons sold. Market is un It is raining; unfavorable. Th thousand boxes of Floridas sold ket unchanged.

NAVELS—

Stag ACG Ft Ex Glendora
Camellia Red Mut O
Pointer AC GFt Ex Glen
Clover Red O G Assn
Defender Atland Ft Co

MANDARINS—

Stag (halves)

LEMONS—

Sunset
Good selected A ern & Son S
AAAA A Kern & Son S D
Canon S T Ft Ex Lam
Our Beauty S T Ft Ex Lam
Diamond K ACG Ft Ex Glendo

PITTSBURG, March 6.—It s ing. Market is firm.

NAVELS—

Gavilan Riv Ft Ex Riv
Planet S S Ft Ex Orange
Sweetheart High Ft Ex High
Yankee Doodle High Ft Ex
Pride of California Riv Ft Ex
Searchlight S S Ft Ex Orange
Eagle High Ft Ex High
Hacienda Penn Ft Co

LEMONS—

Pico S T Ft Ex Whit
Solano Stewart Ft Co

BOSTON, March 6.—Fifte sold. Weather favorable. Mar changed. Twelve cars on track

NAVELS—

Golden Rule Riv Ft Ex Riv
Cosmos S BFt Ex Yerkes S
Blue Seal ACG Ft Ex Azusa
Green Crown ACG Ft Ex Azu
Orchard Nat O Co
Rose Red O Grs Assn
Producer Red O Prod O

LEMONS—

Pet S A Ft Ex San Dimas
Greyhound S A Ft ExSanDimas

CLEVELAND, March 6.—We stormy. Market is advancing cars sold; five on track.

NAVELS—

Searchlight S S Ft Ex Orange
Royal Knight R H Ft Ex Red T

dor A H Ft Ex Arlington	1.85
oy R H Ft Ex Red	1.80
Rule Riv Ft Ex Riv	2.25

Y BLOODS—

Orange	2.70
Orange (halves)	1.50
Tree A H Ft Ex	2.40

GERINES—

el (halves) A H Ft Ex	2.20

PEFRUIT—

el A H Ft Ex	2.50
Tree A H Ft Ex	2.45

ELS—

....	2.20
Pinkham McKevit	2.10

LOUIS, March 6.—Weather Market steady. Nine cars seven on track.

ELS—

Highgrove Ft Ex High	2.10
uixote S T Ft Ex Alham	2.15
eer S A Ft Ex N Pom	2.40
H Ft Ex Highlands	2.20
Gate Red Grs O A	2.15
Star Worthley & Strong	1.65
Pack Tuntin Pack Co	2.05
Doodle High Ft Ex	1.90
nla S T Ft Ex Alham	1.85
und S A Ft Ex N P	2.20
Flower Red G O Assn	2.25
Moulton && Green	1.90
Tustin Pack Co	2.00

ONS—

al E BLeach C Vist	2.00
yx Cal Cit U	1.90
lin Flagler Ft Co	2.30
Cal Cit U	1.95

CINNATI, March 6.—Weather Market steady, Five cars sold; track. Florida brights, $1.65@- ussets, $1.50@1 .9 0 .

ELS—

t S A Ft Ex Pom	2.25
S A Ft Ex Pom	2.20
A Ft Ex San Dim	2.60
und S A Ft Ex San Dim	2.45

YORK, March 9.—Twenty-rs navels, one blood, two cars sold. Market very strong and Higher on all sizes. Lemons Weather unfavorable. Rain-

ELS—

o West Amer Ft Co	2.40
West Amer Ft Co	2.30
t Red Hts O Grs Assn	2.10
Red G O Assn	2.30
sa Riv Ft Ex	2.45
Rule Riv Ft Ex	2.35
resta Arlington Hts Ft Ex	2.50
a Arlington Hts Ft Ex	2.35
eart High Ft Ex	2.55
High Ft Ex	2.35
CG Ft Ex	2.50
ACG Ft Ex	2.20
Globe Riv Ft Ex	2.50
lobe Riv Ft Ex	2.30
range Riv H O G Assn	1.80
Knight Red High Ft Ex	2.40
eer S A Ft Ex	2.35
Q C Ft Ex	2.35
var Red High Ft Ex	2.40
S T Ft Ex	2.10
S T Ft Ex	2.10
G Ft Ex	2.40
ACG Ft Ex	2.05
almos San Marino Gr Assn	2.35.

ONS—

a E B Leach	1.90
ndent Cleghorn Bros	2.65
ndent Cleghorn Bros	2.35

ODS—

Q C Ft Ex	2.80
(halves) Q C Ft Ex	1.25
Bee (halves) Q C Ft Ex	1.40
(halves) Q C Ft Ex	1.55

GERINE—halves—

ion Moulton && Green	2.00
lobe Riv Ft Ex	1.95
ad I L Lyon & Son	2.00
(boxes)	2.30

LOUIS, March 9.—Weather cool. firm. Seven cars sold. Eight ck.

ELS—

ingbird R F Ex Riv	2.20
ACG Ft Ex Latin S	2.10
and S S Ft Ex Or Co	1.70
ACG Ft Ex Charter Oak	2.35
S B Ft Ex Colton	2.35
ide Oranges Riv Ft Ex	2.10
ACG Ft Ex Latin S	1.90
ACG Ex Carter Oak	2.35
ACG Ft Ex Carter Oak	2.00
S B Ft Ex Colton	2.25

ONS—

ay O K Ft Ex	1.95
or Cal Cit U	1.45
rite Cal Cit U	1.65

Y BLOODS—

S B Ft Ex Colt	1.95
(half boxes)	1.15

GERINES—

(half boxes) S B Ft Ex	1.15
(half boxes) S BFt Ex	1.00

SBURG, March 9.—The market on good stock. Weather cold.

ELS—

O KFt Ex	2.30
S BFt Ex Yerkes S	2.35
fly Cov Ft Ex Cov	2.30
Lily Riv Ft Ex	2.30
fly Coxina Ft Ex Cov	2.10
S BFt Ex Yerkes S	2.15
d Run Riv Ft Ex	2.55
Lily T I Riv Ft Ex	2.35

Golden Rule Riv Ft Ex Riv	2.30
Golden Riv Ft Ex Riv	2.10

LEMONS—

Standard Nat O Co	2.30
Niagara Stewart Ft Co	2.20
Orchard Nat O Co	2.55
Signal Stewart Ft Co	2.35
Rescue Stewart Ft Co	2.15

PHILADELPHIA, March 9.—Seven navels, four mixed, one seed, three lemons sold. It is raining. Market lower. Unfavorable. Floridas, 3000 boxes. Market unchanged.

NAVELS—

Tiger S B Ft Ex Colton	2.16
Coral S BFt Ex Yerkes	1.90
Golden Fruit R G O Assn	2.19
Valle Vista Grs Ft Co	2.17
Mission Bells A B Chapman	2.15
Defender Atland Ft Co	1.56
Cosmos S B Ft Ex Yerkes	2.16
Parrot S A Ft Ex Glen	2.30
Pointer ACG Ft Ex Glen	2.30
Mountain Lion F H Speich	2.12
Vista Bonita J A Graham	2.12
Blue Keystone King Ft Co	1.91
Red Keystone King Ft Co	1.70

TANGERINES (halves)

Stag ACG Ft Ex Glen	2.06

LEMONS—

Good Selected A Keen & Son S D	1.67
Diamond K A Keen & Son S D	1.34
Canon S T Ft Ex Lam	2.26
Rialto Girl Grs Ft Co	2.32
Rialto Girl Grs Ft Co	1.87
Trail S T Ft Ex Lam	2.46
Defender Atland Ft Co	1.02

SEEDS—

Mission Bells S B Chapman	1.90
Mission Memories S BChapman	1.82
Rossmoyne E S Ross	1.82

BOSTON, March 9.—Fourteen cars sold. Weather cloudy. Market remains unchanged. Thirty-six cars on tack.

NAVELS—

Quail O K Ft Ex	2.20
Queen Bee Q QC Ft Ex Cor	2.25
Red Globe Riv Ft Ex Riv	2.25
Golden Rule Riv Ft Ex Riv	2.25
Orchard Nat O Co	2.65
Crafton Red G O Assn	2.35
Elk Riv Ft Co	2.35
W Highland Cleghorn Bros	2.30
W Highland Cleghorn Bros	2.20
Jameson Q C Ft Ex Cor	2.15
Blue Globe Riv Ft Ex Riv	2.50
La Mesa Riv Ft Ex Riv	2.55
Aupha Riv Ft Co	2.60
Elephant O G Cash Assn	2.45
Golden Fruit R G O Assn	2.25
Golden Orchard Ind Ft Co	2.20

BLOODS (halves)—

Southland Beauties	1.35
Leader	1.15

TANGERINE (halves)—

Blue Globe	1.85

LEMONS—

Laurel Q C Ft Ex Cor	2.20
Our Beauty S T Ft Ex Lam	1.71

CLEVELAND, March 9.—Weather favorable. Market steady. Eight cars sold. Five on track.

NAVELS—

Red Globe Riv Ft Ex	2.25
Pine Cone S BFt Ex High	2.35
Truth Riv Ft Ex Riv	2.35
Cosmos S BFt Ex Yerkes S	2.20
Carrier S B Ft Ex High	2.20
La Paloma Riv F Ex Riv	2.20

LEMONS—

Pet S A Ft Ex San Dim	2.55
Duck S A Ft Ex San Dim	2.15
Greyhound S A Ft Ex	2.30

NAVELS—

Heap Good Pattee & Lett	2.30
Corona Queen Spence Ft Co	2.20
Young America Pink & McKevitt	2.00

CINCINNATI, March 9.—Weather cool. Market steady. Five cars sold. Five on track. Florida brights, $1.95-@2.00; russets, $1.80@1.85.

NAVELS—

Greyhound S A Ft Ex Clare	2.20

LEMONS—

Pet S A F Ex San Dim	2.55
Duck S A Ft Ex San Dim..N	2.15
Greyhound S A Ft Ex San Dim	2.35

ADDING AN ADAGE.

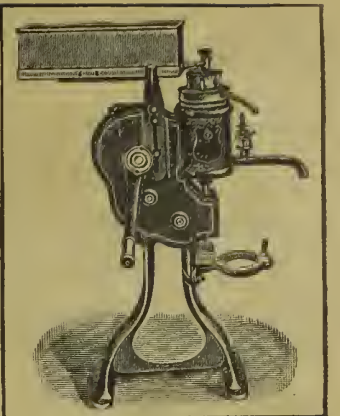
A lady told this story about a little girl who had been taught to pray:

"Lord, make me a good little girl," she said one night; and here, forgetting the rest of her prayer, she added what her teacher had taught her at school that day:

"If at first you don't succeed, try, try again!"—Home Magazine.

The sub-surface "packer," the implement for dry farming operations, illustrated and spoken of in the dry farming article of this issue, is a new tool on the Coast. One of them is soon expected in Los Angeles and will be on exhibition at the seed store of Johnson & Musser, North Main St. It is an essential in dry farming operations and said to do its work perfectly.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.



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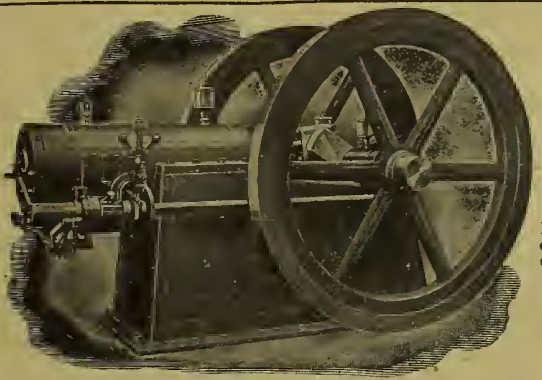

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IS THE LARGEST WEST OF THE ROCKY MOUNTAINS
FOR BEEKEEPERS
All kinds of bee supplies, orange shook, packing boxes, berry crates, grape baskets, etc. The best goods and the lowest prices. Personal attention to correspondence and prompt attention to orders.
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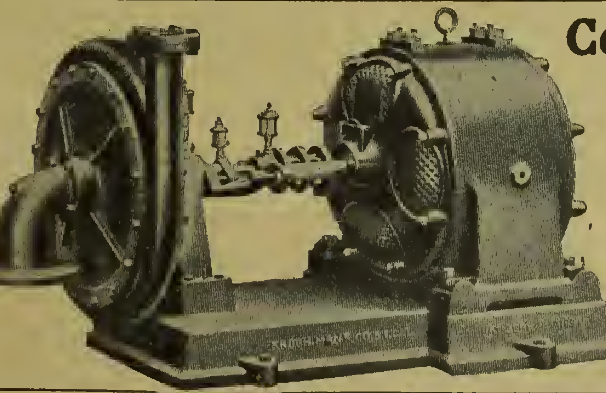

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Direct Connected or Belt Driven
Highest obtainable efficiency
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SAN FRANCISCO CAL.
Send for New Cat-a ogue No. 50 just issued.

CEMENT PIPE TOOLS
Do you want to make money? Here is your chance. Get a set or two of our pipe tools, make up a stock of pipe and do contracting of installing irrigating systems. Your neighbors are wanting something to save water and labor. Here it is. Write for our Brown Book. It contains much information for those interested in irrigation.
KELLAR & THOMASON
COVINA, CALIFORNIA

Back of the Ban

Book

Is the "Tubular" Cream Separator

EVERY dollar of the farmers' and dairymen's money in the banks of this country represents hard labor and wise economy. It represents head work as well as hand work. But it is a fact that the farmers and dairymen whose balances in the bank are the biggest are not always the men who work the hardest with their hands—nor even the ones who farm the most acres or milk the most cows. They are mostly the men who make every movement count by employing the latest appliances and the most economical methods in their work. They are the men who make mind master over muscle. Much of their wealth is therefore the result of economy—the saving of what others waste. This means that they are always figuring on how to increase profits without increasing expenses. The first question with such men, when considering the purchase of a new machine is, not how much will it cost, but, **what will it do?** Will it save anything which now goes to waste? Will it do this profitably? That's the test we ask you to apply to the **"Tubular."**

Saved Price in One Season.

CHERRYVALE, KAN.,
June 13, 1907.

I can sell my butter to customers where I never could sell it before getting the separator. We milk six cows and it will make more than enough butter extra to pay for the machine in this one season.

LAURA I. TURNER

Twice as Much Cream.

PINE BLUFFS, WYO.,
May 14, 1907.

We get twice as much cream as we did skimming by hand. Tubulars soon pay for themselves.

MRS. G. W. RUSSELL.

Twice as Much Butter.

KAW, OKLAHOMA,
April 24, 1907.

Make about twice as much butter from seven cows, and of a better quality than we did without it.

MRS. MARELLA.

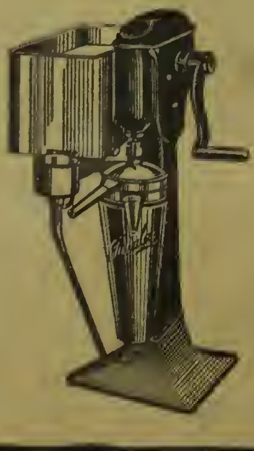
Saved Cost in Six Months.

ALTAMONT, MO.,
April 24, 1907.

We have a Sharples Tubular Separator No. 4, which we have run three seasons, and which paid for itself in the first six months it was run.

ROSS DeFORD.

The Best by Every Test



We ask you to apply this test because it will be to your interest to do so. If the **"Tubular"** will increase your profits without increasing your expenses you ought to have it. It will. It will make every cow you milk earn more money. That's why we want to put a **"Tubular"** back of your bank book. Thousands of farmers and dairymen testify to the merits of our machines. They say the **"Tubular"** pays for itself in a short time. When it has paid for itself all that it saves is clear profit for there's no expense—it won't cost you a dollar a year for repairs. We've built it so that it can't.

If you are economically inclined; if you want to save money and increase your bank account here's your chance. Our valuable book, **"Business Dairying"** will show you how, and our latest catalog tells all about the **"Tubular."** We'll send them both **free** if you will write today, ask for book No. 260.

The Sharples Separator Co.,

WEST CHESTER, PA.

Toronto, Canada **San Francisco, Calif.** **Chicago, Illinois**

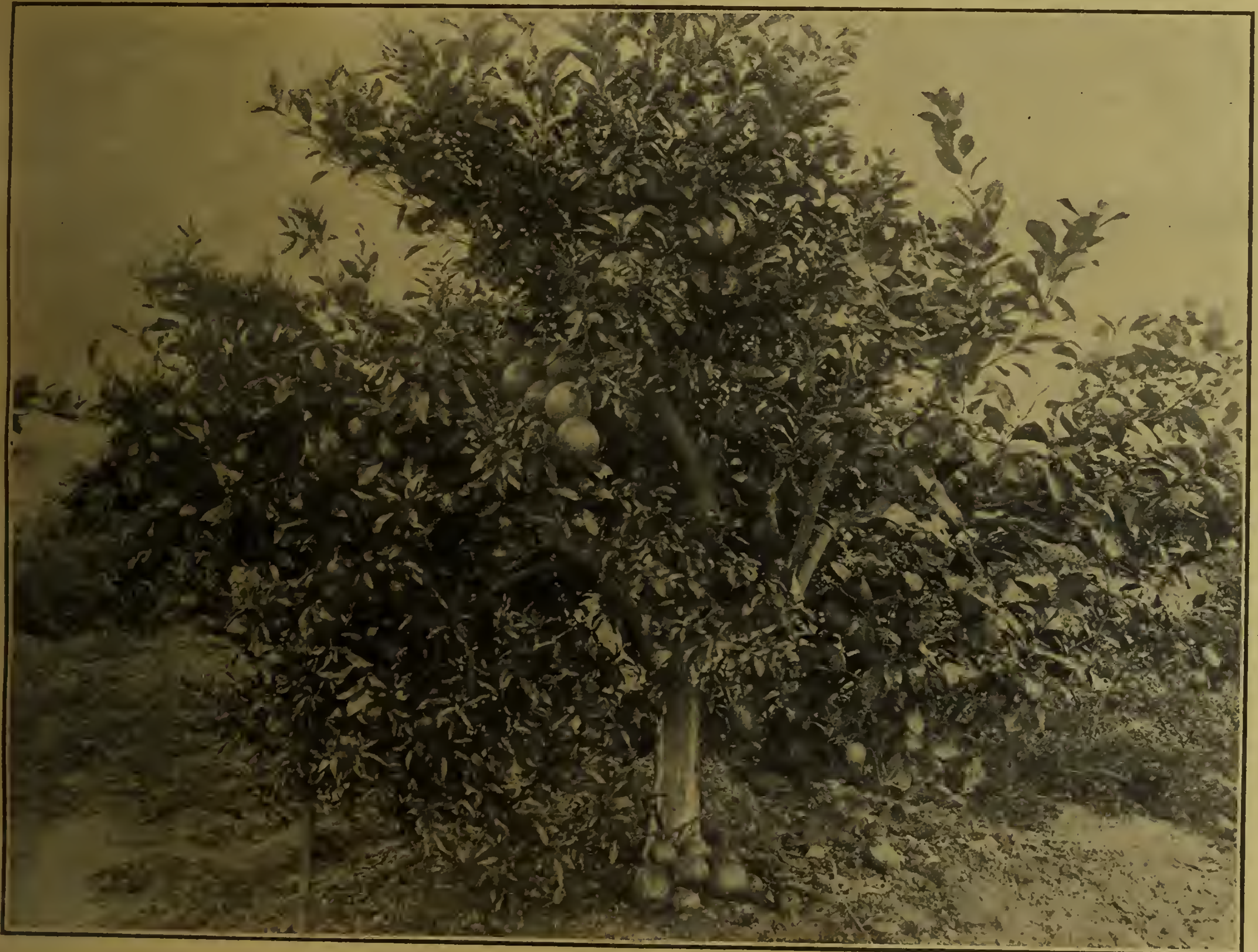
California Cultivator

Published Weekly One Dollar a Year

s Angeles March 19, 1908 San Francisco

An Object of Interest

A Citrus Tree Budded to 22 Different Varieties, Embracing Navels, Valencias, Seedlings, Tangerines, Pomelos, Lemons, Etc.



Courtesy San Dimas Nurseries.

REE like the above may be interesting and a novelty, but
t a commercial factor, of course. But it may cail atten-
n to the fact that as an interesing object and as an orna-
the yard, the orange is pre-eminent. All over the State
ge is exhibited in front yards as proof of the matchless cli-
ar to the North of San Francisco in Sonoma county is
le, noted for its citrus fair. No one ever heard of Clover-
ges in great quantity in the Eastern markets, but as an ad-
he has used the orange judiciously and effectively, and to-
itrus fair is known over the State.
rserymen plan for this home-ground ornamentation by growing exceptionally large and fine trees. For city and suburban home grounds these specially grown and budded trees posses an economic and ornamental value which entitles them to first consideration. No evergreen tree possesses a grace and beauty beyond that of our well-known orange and lemon trees. When to this is added the fruit product of citrus trees, it is obvious that no home garden or orchard can be considered complete without a representation.

So, plant an orange tree. If your principal product is from the vine or deciduous tree or the cereals, still plant the orange and when your Eastern friends cross the desert to visit, you can give of the luscious fruits of the tropics to refresh.

Use Coulson's Special Dry Chick Food

and Insure Success

Two-Weeks-Old Chicks fed on
Coulson's Special Dry Chick Food

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Coulson Poultry and Stock Food Company

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the price or the goods.

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260-Egg Size, $20 130-Egg Size, $15

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BY

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Acetylene

PARLOR

DINING-ROOM

Our sketch last week illustrated what a simple matter it is to insta
Acetylene Plant in your house. This week we wish to illustrate the
ment to one's property attractive and inexpensive chandeliers make i
ance and convenience. To effect economy and get better light, bes
ing disagreeable labor, is an opportunity to be grasped.

The modernizing of a place with piping and fixtures is quite differ
Colt Acetylene than other illuminants, for not only does the purchase
a great improvement to the property, but with the generator has an in
through the economy of the light itself and through its freedom from
soot and grime.

Favor us with an inquiry concerning Colt Acetylene. We shall tak
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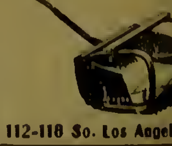

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alifornia Cultivator

XXX—No. 12 Los Angeles, California, Thursday, March 19, 1908 Subscription $1 a Year

ternational Institute of Agriculture

An Institution Proposed by an American, Adopted by Europe and Now by America, Which May be a Factor in More Intelligent Marketing of Our Crops

International Institute of Agriculture at
e is a unique institution. It is in a
by itself. It is not for instruction, as
quiries would imply, but strictly for in-
on, the collection of data, and the
dissemination of information of interest
ations of the earth. It is to deal especi-
the economics of agricultural produc-
distribution, and with the sociological
of agriculture. Its novel character
ie plans for its development a matter of
interest.

fer the conception of an international
of agriculture belongs to an American,
d Lubin, of California, who sought the
e of the King of Italy in carrying the
effect. The plan appealed to the King,
ed a call, through the Italian ambassa-
he different nations of the world for a
e at Rome to consider the advisability
ishing such an interantional institute.
erence took place in May, 1905, one
and fourteen delegates representing for-
ries being present. After deliberating
g over a week on the matter, the
l" was adopted and signed by the dele-
sent, providing for the establishment
stitute and outlining its constitution
tions. The convention was afterwards
by plenipotentiaries of the respective
. Twenty-five nations, including near-
agricultural importance, have joined in
rtaking and pledged their support.

untry has made an appropriation of
the payment of its quota toward the
f the institute for the fiscal year 1907,
for the salary of a member of the per-
ommittee and for the expenses of dele-
the general assembly of the institute.
in Government is erecting a palace in
ns of the Villa Borghese in Rome to
eadquarters of the institute. This is a
two-story building, containing an
hall and executive and clerical offices.
ment has been made that the first
of the permanent committee in charge
titute will be held this spring, and the
will be inaugurated and enter upon ac-
as soon thereafter as possible.

meantime the Italian Royal Commission
ated an inquiry into the exact character
t of the information which the differ-
ries are in position to supply with re-
heir agricultural production. This in-
will be catalogued and classified, and a
n it will be ready for the use of the
committee when it meets. The sys-
peration in various countries for the
of agricultural statistics are also be-
d, in order that the value of these sta-
y be judged of and means of improve-
gested where desirable.

nctions of the institute are strictly
and sociological. While its duties
been worked out in detail, the "acte
scribes as among the principal duties
nstitute shall collect, study and pub-
omptly as possible statistical, tech-
economic information of interest to
sts, excluding "all questions relating
to the economic interests, the legislation and administration of any particular nation." More specifically the data sought for publication relate to the cultivation of the soil, crop production, trade in and prices of agricultural products on the various markets, wages of rural labor, the appearance, spread and means of control of new diseases of plants. It will also give special attention to the subjects of agricultural co-operation, insurance and credit. It is designed, therefore, to serve as a great intelligence bureau of the countries interested, for the dissemination of information relating to agricultural production throughout the world, and many economic and social phases of agriculture.

Harvesting Scene in Colusa County.

The finances of the institute are co-operatively provided. The calculated annual expense of the institute is about $175,000. Toward this sum the King of Italy has given the revenues of two domains near Pisa, which amount annually to $60,000. The balance of $115,000 is to be raised among the nations on the basis of units of subscription, which also determine the national representation and voice in the management of the institute. Five groups are recognized. Group 1 carries five votes and sixteen units of subscription, group 2 four votes and eight units, group 3 three votes and four units, group 4 two votes and two units, and group 5 one vote and one unit of subscription. For the first two years a unit of subscription is placed at $300 per annum, and the constitution provides that it can never be more than $500. The subscriptions, therefore, range from $300 to $4800 per annum. Each nation elects the group it will join in the management and support of the enterprise. The United States has come in on the basis of group 1.

The control of the organization is placed in the hands of a general assembly of delegates, sent by the adhering nations and presided over by an elected president and two vice-presidents. The permanent committee, composed of members designated by the respective governments, is intrusted with the executive management of the institute, under the direction and control of the general assembly. Members of the committee may serve as the representative of one or more nations, but the actual number of members is to be not less than fifteen. The general secretary will act both for the committee and the assembly.

Thus there is brought into existence a real parliament of the nations, with a permanent cabinet and ministry devoted soley to a consideration of agricultural interests. It is a significant step in international co-operation, and the more so because it is directed toward the greatest of international industries and the one most far-reaching in its sociological influences. It signifies a uniting of forces in peaceful and productive occupations in mutual aid for mutual benefit. As such it is noteworthy as marking another step in the progress of civilization.

Brief mention was made last week of the appointment of a referee board by President Roosevelt to take up and determine, so far as practicable, the question of fruit sulphuring. This being an acute subject, the fruit growers of California desired to be represented on the board by one of the best informed authorities the State possesses. Dr. Taylor, of the University of California was selected, and his appointment meets with very general favor, we judge. The sulphur question is an all important one to California fruit raisers, and for a time it looked as if it were going to be decided adversely to their interests. However, the indications are for a conservative ruling, the Secretary of Agriculture having stated that nothing shall be done to injure the interests of growers until the whole matter is thoroughly gone into and determined on its merits.

Trees and Vines
for profit and adornment
Roses and Plants
that please and beautify
Write for our new illustrated Catalog descriptive of the leading California Fruits, Roses, Ornamentals, Eucalypts and everything for the orchard, avenue and garden.
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TREE TANGLEFOOT
A Sticky Preparation Applied Directly to the Bark of the Trees
Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm Wherever the Gypsy or Brown-tail Moths, Tussock Moths fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.
Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials.
THE O. & W. THUM COMPANY
Manufacturers of Tanglefoot Fly Paper Grand Rapids, Michigan

PEAR AND APPLE BLIGHT
We Can Cure it
Our Work has Extended Over a Period of Three Years
Process and Formula Patented
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PEAR-BLIGHT REMEDY CO.

Fruit Trees
Thousands of dollars saved by farmers by patronizing us. 50,000 Lob Ingir Smyrna Fig trees, 4 to 6 ft. in lots of 100 at $12.50; 500 and up at $100.00 per 1000.
We won the Gold Medal at the Lewis & Clark Exposition. This is the world famed Fig of commerce.
We have a large stock of Bartlett Pears, Royal Apricots, Orange and Lemon trees, as well as other nursery stock.
Bed rock prices. Send in list of wants. Address
Maywood Colony Nursery, Corning, Cal.
W. Herbert Samson, Prop.

Now is the Time to Plant
Sweet Corn—Oregon Evergreen is the best.
Musk Melons—Gautier's Pineapple, Burrell's Gem, J & M Triumph are the best.
Water Melon—Chilian, Philippina, Angelena, are the best.
Cucumber—Long White Spine, is the best.
Field Corn—King of the Earlies, Early Mastedon, Iowa Silver Mine.
For these varieties see
JOHNSON & MUSSER SEED CO.
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Wholesale Growers of Deciduous Fruit Trees and Vines
Send for Price List

Deciduous Fruit Cult

HANDLING FRUIT.

THE following criticism by a packer, as published in a Washington paper, will apply with much force here as well as elsewhere:

"There is no question as to the fruit which can be and is grown here, but it certainly can be said that the proportion of men who know what to do with it after it is grown is limited. I know nothing about the growing of fruit, and don't profess to, but I do know how to handle it, and starting in at the beginning I say that right here I notice a tendency to allow the fruit to remain too long on the trees. I visited one large ranch and told the proprietor that his fruit should be taken sooner. He said that if he allowed it to remain it swelled. Well, a couple of days later I saw that a shipment of two cars of peaches had demoralized the Seattle market. I knew where those peaches were from. They were in such condition that they could neither be held over nor re-shipped. The bottom went out of the market. In other words, the man who wants to let his fruit swell, and, therefore, his receipts also, may miss it.

Packing and Handling.

"Another criticism is the failure to learn how to pack and handle the fruit. Kindergarten methods are bad. And right here I want to say that more fruit is spoiled through loose packing than through solid packing. Slack packing will chafe the life out of the best fruit grown. The keeping qualities of green fruit are such as to enable the buyer to regulate his business. There seems to be an impression that Seattle is the whole coast; that is with those shipping west. If they would remember that there is a long coast north and south some of the fruit wouldn't swell as much.

"The tendency to try to realize on the whole orchard is to be deplored. Windfalls and good fruit all come together in so many instances as to indicate that something is wrong. Fruit in poor company is known by the company it keeps. Graded fruit will bring a better return than the run of the orchard unselected. Growers can ship less and get more money. Not only that, but they can turn their attention to utilizing the by-products and add to their revenue.

"That there are not more individual shippers is a surprise. The fruit men throughout the country with a national reputation are not men who grow better fruit than that produced here. There is none better. They are the men who select their own shipping stock and keep out the inferior stuff. Here you have scores of men with the necessary capital to enable them to do their own business, and I am surpised that so few are thus engaged. Those making the greatest success have taken that step. The money goes with the greatest care and attention.

Careless Hauling.

"Having picked and packed their fruit some growers resurrect the most unique rigs for transporting it to the shipping point. In many instances there is a failure to realize the perishable quality of the freight. However, in this respect I can say that there have been new wagons in evidence this year and the number is increasing. I saw a some prominence drive in a ago and pull a box of from the back of his rig, down and ask for weight, would make a box out of His care of it was a minus I hate to see good stuff spo that reminds me that with berries there is a whole through the failure to co tire patch each day. Th until tired and then stopp gin the next day where on the first is wrong. patch if it has to be done light. I am not blaming for all this. I blame the do say, however, that if the will study handling metho they will add, in the thousands of dollars to the come.

"Eighteen years ago I w this country and saw the toes I have ever seen. not so much water then. years from now they may grown. Each year, in will see less water used. is used now for the best fr and as time goes by and is available the proportion smaller. However, from view as an expert handler, need now is more qualified take care of the splen grown."

GRAFTING THE CHER

At a meeting of cherry gr Salem last week, E. C. Ar Marion county fruit inspecto on grafting the cherry to an ciative audience. He said in

"Many persons are pla seedling tree with the idea grafting so that the body a main forks will be in the seedling. This I recommend.

"When the tree is pla should be cut off at a height more than twenty inches fro ground. This will form a four or five limbs should b to grow the first year. Th ing spring, three of the be limbs should be chosen as on which to graft the var ed.

"There are several me grafting, but the one whic recommend for the graftin young trees is known as graft. This is made by stock to be grafted at an degrees, making a slit len the limb and parellel to th this cut. The scion is tr same manner, and the each of the parts is then the slit in the other, and ful graft is assured if pr tions are observed in the

"Another method is kn wedge graft, and is on recommend for the This is well known to horticulturists of the needs but little descripti This is performed by limb square off at the e making it smooth with th cut slit is next made th bark into the wood, paralle limb, and following th shape of the limb. Never cut straight into the tree to center, as this is more di heal over. The scion is ne point, and in a wedge into the cut in the limb in manner that the thick part 'edge is outermost.

place where the graft is waxed for the purpose of ex- the air and moisture and ng the evaporation of mois- m the scion. The wax is taking six parts of resin, beeswax and one of tallow. se together and apply to the raft with a brush while the yet warm. Be very careful hat all wounds in the tree are ly covered.

persons have the idea that- on of the cherry tree is not y. This is an error. The ould be given a thorough, cultivation, which should time to allow the wood to fore the winter season sets

are many old trees in this hat are practically worthless now stand, which, by proper ting can be brought into and be made profitable. I ecommend the Royal Ann or varieties of cherry for they ter than others."—Portland n.

HE CODLING MOTH.

attending the horticultural at Portland two weeks ago ntally got in conversation old man from the Santa lley, California. He claimed orchardist of twenty years' e. He told me of a novel handling the codling moth, hrough the columns of the ter, I give to the orchardists River, hoping that others nyself will give it a trial. is: After the first codling ray, which must be thorough- take a sack, such as we use grain, etc., soak it for two y from 4 to 6 P. M., in ap- . Just before dark hang the to an apple tree (right end a string to each side of the so that while the opening is it will not exceed one-half width. Wring the sack efore hanging. As is well he codling moth gets in her ring the night. The cider her to the sack, the narrow urnishes a place to crawl in, narrow opening prevents flying out and she is also to crawl out. So when you sack in the morning if no moths in the sack there In that part of your or- ith this method only one codling moth is necessary. Kerr, in Hood River News-

k the writer of the above is "off" on the statement codling moth is a night we believe the contrary has en and all night moth ave failed to show any ma- ntage of codling moth.

ED OR BUDDED STOCK.

years ago there was a great riving in some sections to t of a hue and cry, over the nerits of whole-root, piece- ted and budded trees, says try Gentleman. The ques- e relative value of budded ted trees has been so often ar- t results are pretty well estab- is now everywhere accept- fruit growers, with few ex- that one nursery tree is good as another without to the method of its propagation. That is, if we compare 100 grafted trees with 100 budded trees, the two lots being of the same age, size and weight, all clean and healthy, there is absolutelly no preference for one lot or the other from the standpoint of the tree planter. The same comparison could be made between a whole-root and piece-root tree.

There may be considerable differences at times between the different methods of propagation, considered from the standpoints of the nurseryman. In some sections and with some varieties it is cheaper to propagate by budding; in other sections it is often cheaper to propagate by grafting. Growers in the Eastern States particularly believe that they can grow bigger and better nursery trees by budding than they can by grafting. This, of course, means that they have more first class trees in a thousand and sell them at a higher price. The way in which a tree is propagated, however, makes absolutely no difference to the man who plants it.

RUSSIAN APPLES.

A number of years ago there was quite a stir over the introduction of a number of varieties of Russian apples. The idea in introducing these apples was to secure varieties that would stand the severe climatic conditions of the western plains. It was known that the apples of the Russian plains had developed physical pecularities that enable them to withstand the severe and sudden changes in weather peculiar to that country. While this was a desirable feature, the loss in quality and development of other defects more than made up the difference. Alexander is, perhaps, the most widely planted of the Russian apples, but it is also one of the most susceptible to the blight. Arabsko is another one that gave much promise, but it also is very subject to the same disease. None of the Russian varieties so far tried have power equal to the best American varieties. Prof. Budd of the Iowa station introduced a number of these varietiese some years ago, and, after a fair trial, the Iowa horticultural societies reported that they had been the source of great loss to the growers of the State.

BOILED DOWN.

Taking infinite trouble is an art, whether you paint a picture or dust a room.

Be true to yourself, and live up to your best impulses.

Don't look for trouble with an X-ray; it will find you soon enough, never fear.

Your row won't seem so hard to hoe if you will consider the other fellow's row.

The man who has a perpetual grievance has moral small-pox; at least every one wants to get away from him.

A hobby is a good thing, but do not insist upon riding it at all times and places.

THE SAMIAN LETTER.

The letter Y is called the Samian letter. It is so called because its Greek original was referred to by Pythagoras, the philosopher of Samos, to illustrate how deviation from the straight path of virtue becomes constantly wider as the lines are extended. The poet Pope refers to this idea in the lines:

When reason, doubtful, like the Samian letter,
Points him two ways, the narrower the better.

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POTASH
in the fertilizer in generous quantities makes heavy yields of clean and sound vegetables and fruits.
Strong and lusty plants resist the attacks of insects and germ pests.
Plenty of Potash in the fertilizer assures the best crops.
Our Book, "Potash in Agriculture," is *free* to farmers. May we send it to you? Address
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The Oldest Nurseries in Southern California. Established in 1868.
Tim Carroll, Proprietor **Anaheim, Orange Co., Cal.**

Washingtonia Robusta and Phoenix Canariensis Palms, any size from 1 to 8 feet, in large quantities.
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With the Citrus Growers

MINOR CITRUS VARIETIES.

THERE is but slight demand for the various varieties of small oranges or those of the Tangerine types, either for commercial or domestic purposes. When a person is orange hungry, nothing fills the want as satisfactorily as a large, luscious Washington navel or Valencia. Nevertheless, a nice Tangerine now and then is a relish, but one or two will usually suffice.

Dancy Tangerine is the variety usually planted, it being handsome in appearance and very prolific. It grows well on the regular sweet stocks. The tree will grow to be large and one tree in the home orchard is abundant. The Satsuma is an orange of this type and ripens earlier. It has a much thicker rind, and taken all in all, it is not as good as the Dancy Tangerine.

St. Michael is a good orange for the home orchard and comes in between the navel and Valencia. It has a very thin skin and is full of juice and high flavored. It is a good commercial variety and in its season has brought the grower good returns.

The Kumquat oranges are quite ornamental and while not edible direct from the trees they make an excellent preserve. They may be fermented in salt water till the bitterness is destroyed in the rind when they may be preserved or crystallized. There are two varieties of Kumquats, round and oval.

REPLACING ORANGE TREES.

It is often desirable to reset trees in an orange grove that has reached the bearing age, and if the orchard is not over five or six years old it is not a very difficult matter if proper measures are taken. When an orchard gets to be twelve or fifteen years old, we doubt if it is wise to reset trees singly. The roots of the old tree have already taken possession of the soil and they are using it to the best advantage. Success in establishing a small tree in such a location is a question of food and water. When well grown trees are two to three years old, their roots intermingle and the older the trees, the denser the root mass becomes. The entire space where the new tree is planted will become completely filled with rootlets before the end of the first year. This will make it easy for the older trees to rob the newly planted tree.

The best method to pursue is to fertilize the soil well in a large hole, one three feet wide and deep. A few cow heads from the slaughter house placed in the bottom of the hole with a liberal supply of well rotted stable manure worked in the soil that is used to refill, will give a supply of plant food that will stay with the tree for a couple of years. It must be borne in mind that food enough must be supplied to satisfy all the trees surrounding the newly planted one. A fertilizer rich in nitrogen should be used. Enough water must be supplied at all times.

A two-year-old tree should be selected. One that is strong and vigorous and with a large ball of earth. The tree should be removed to the shade of a building or under the shade of a tree and well wrapped around the ball with sacks and kept moist for a week before planting in the orchard. Do not remove any more of the top that wilts down when under shelter. When it is removed to the hole, give it an abundant and constant supply of water with a nitrogenous fertilizer applied as described for field planting in a recent issue.—J. W. M.

IN FLORIDA ORANGE GROVES.

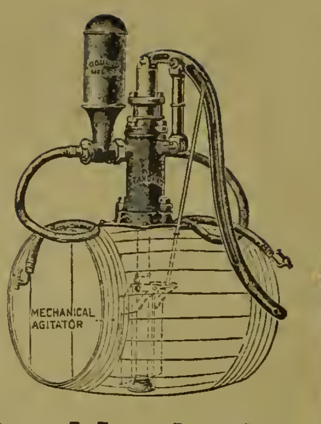
Under ordinary conditions the Florida orange season would at this time be nearly ended. But owing to the great drouth of the winter and spring of the last year, the blooming was abnormal, continuing from February until July; consequently there are yet many oranges not mature, the amount of these being estimated by some persons at about a million boxes says a correspondent in the Country Gentleman. This will prolong the shipping season probably until next summer. Those which come from the late bloom are not as good as those which come from the normal bloom. The rind is thicker, and they are not as juicy and as sweet. It was anticipated that the crop being quite a short one would command good prices and prove a fairly profitable one to the growers. But this expectation did not materialize. The first oranges shipped brought good prices, but as soon as the financial panic occurred, prices dropped, and so far have not reacted.

The beginning of the new year finds the groves generally in fine condition, and a good crop may be expected. The winter so far has been very mild, with plenty of rain. Ice has been sent here but once this winter. It is just cool enough to keep the buds in abeyance. Unless cold weather comes very soon, the bloom buds will begin to appear within ten days or less. It is very rare for the orange buds or bloom to be killed by cold.

White Fly.

Since the recuperation of the orange industry in Florida, the greatest discouragement that has been encountered by the growers has resulted from the general diffusion of the White fly. While it does not infest all the groves of the State, it is generally diffused throughout all sections, and it cannot be long before it will be found practically on every tree in the State. Spraying to destroy the White Fly is generally admitted to be a failure, for it is absolutely impossible to wet every leaf. The leaves are very thick on the trees. The fly lays its eggs on the under side of the leaves, while the upper surface of the leaves is covered by a black, sooty film. In this, the northern belt of the orange zone, the trees are only eight years old from the last freezing in 1900, and, consequently, much smaller than they were before the great freeze. Owing to this, it is found that spraying does much more good than it did to the large trees. But very little spraying is done anywhere in Florida for the White fly.

More reliance is now being placed upon the fungi for checking and destroying it. Two species of fungus, the red and brown, have been known and prized for their destructive work.



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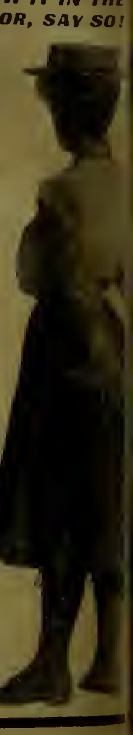

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ere slow, however, and never in completely destroying the other has recently been dis- that is considered much more ɘ. It can be sprayed upon the nd by that means its diffusion ıcrease is more rapid. The fly, tiny and beautiful as it is, ɔéte noire of the orange grow- is not as much dreaded now ese fungi have proved to be helps in keeping them in

point of over-production of will probably soon be . A full crop now would y reach 5,000,000 boxes. These into market early in the sea- escape freezes and to antici- e California crop, and meeting importation from the West and Mexico, would glut the and this, occurring in a sea- less prosperity than the has been enjoying, could fail to be disastrous to

ɔomelo, or grape fruit, has at- great popularity, and Florida ɔt grow enough of them to the demand. It has been extensively of late years in Florida, and there are enough groves to supply the demand w years. The pomelo is not s hardy as the orange; con- y it is not planted much in thern part of the peninsula.

Gum Disease.

is one of the most destructive that threatens the industry st certainly continue to spread troy trees as they become nless stringent measures are check it as has already been some sections where it has ıed entire groves. There are uacks in the field selling pa- pes to cure this disease, and ould be given a scant hearing vers who are seeking perma- sults. Exhaustive tests are ɔmpleted in the State Pathol- ɔratory, and these show that ble is not due to any spore, organism, but in every case cal and mechanical conditions re nearly always in the soil. nfectant or other dope applied ounds is of no value, then as ve measure. What is impor- this respect is to remove dis- ssues before they are entirely t and while the sap wood be- he diseased cambium is still ca- healing over the diseased por- ow put on a heavy coating of erial you choose that will hold ral moisture of the trunk and ılitate healing. It is desirable hould contain sufficient disin- to prevent saprophtic rots tering the wounds but not o burn and kill the sap wood which must be depended healing out the portions re- I have found groves where lling was going on beneath a of beeswax, and others where coating of coal tar was an- the same purpose. Many ob- he oils of tar and will prob- fer beeswax, one of resin, a eed oil. This combination is ap, and is nearly transparent. of course, be applied while A heavy plaster of fresh cow ɔound about the trunks is also sfactory if a sufficient amount btained.

The gum disease situation in some of the worst affected districts is very hopeful, and it is largely due to drainage, exposures of bud unions, and a thorough spading of the soil about the trees directly after the rainy season and as often as it is necessary to prevent it from baking and becoming hard, at the same time allowing air to penetrate to the feeding roots and prevent the soil in which they are embedded from scouring, this is probably the most important factor of all. While conditions producing this disease here are not entirely analagous to those of other sections, especially in the matter of under drainage, yet there is much to be learned from their work. No other cause is at once so vital and difficult to overcome as lack of drainage and I believe that the difficulties here can be even more easily and effectually surmounted than where this is the chief cause. Much work has already been done here, and much of it promises to be very satistory. It should be extended to every grove where this disease occurs, and every possible effort should be made to remove the cause of it before spring, for it is usually then that new cases appear and old ones spread about the trunks. Where it is necessary to dig down to expose the bud unions, the basins thus made should be filled before they collect rain water. White sand or other sand free from clay is best for this purpose. If desired it can gradually be worked into the soil and thus make it much lighter and less susceptible to the disease.

As usual, preventive is better than cure, and it must become a part of field practice to remove and prevent causes before the disease appears, for a diseased tree is not easily reclaimed to its full bearing capacity. I say "prevent" causes from occurring, because I know of cases in this very association where gum disease has been induced, especially in border rows, on light soils by basin irrigation. Water is certainly not more valuable than trees, and should never be allowed to come into contact with the trunks, much less to be held about them.—From Report of Field Man Jones to San Dimas Lemon Association.

A BORN OPTIMIST.

When little Leander Bassett asked big Leander, his father, what an optimist was, Mr. Bassett regarded him thoughtfully for a moment before he spoke.

"I hope you're going to be one," he said slowly. "You favor your Uncle William in looks, and you've got some of his ways. 'Twould please me mightily to have you turn out like him.

"I don't know how the big dictionaries put it, but I know the general idea, sonny, and it's your Uncle William clear through and through.

"When we had wood to saw an' split he used to call it a kind of a battle. He'd say, 'When we've disposed of this regiment,' pointing to pile o' wood father'd portioned off to us, 'I think our troops will be able to make off to the woods without further interference,' he'd say—and then we'd both hack away like mad.

"When it came to hoeing corn in the hot sun, and I'd got clean discouraged, he'd put his hand up to his eyes and say, 'Strikes me we're getting on pretty fast. When we've hoed these two rows and sixteen more, we'll be one more than half done, and plenty of time to finish.' He'd laugh when he said it, and I'd laugh with him.

"I couldn't always see it the same way he did, but I learned one thing—you can look right at any hard, disagreeable job till you can't see anything else, even when you turn away from it; or you can look through it, no matter how thick 'tis, same as William did. He was what I call an optimist."—Exchange.

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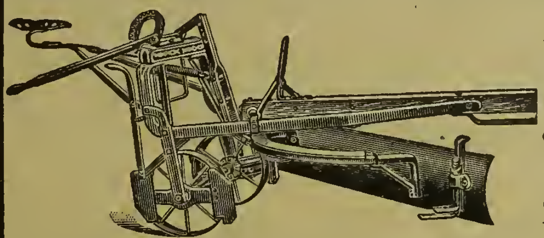

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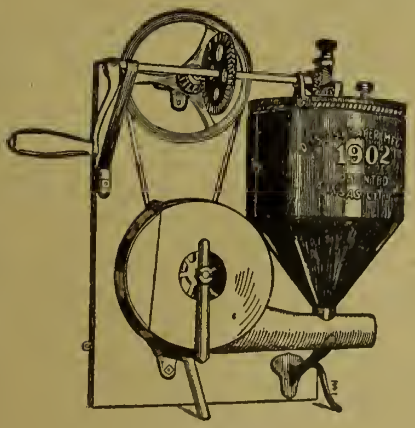

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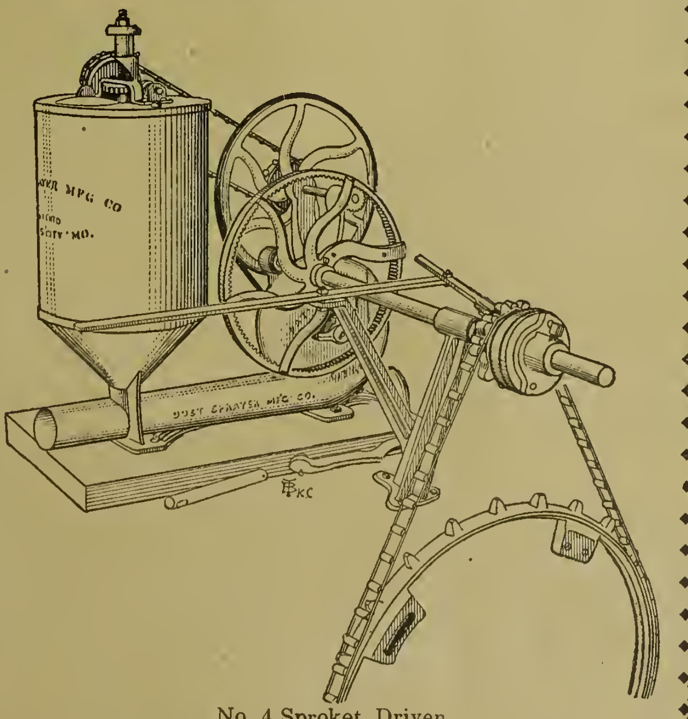

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Dust Spraying by Grape and Fruit Growers has met with great success. It is the practical and labor-saving method of applying insecticide and fungicide. Send for catalog and California testimonials from Grape, Prune, Almond, Apple and Orange Growers. Five sizes. Hand, sprocket and engine drive.

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THE PURPLE SCALE PARASITES.

The recent introduction of the parasite from China which is expected to do good work in subduing the purple scale, was at first reported to be doing great work in Orange county. We recently noted the following in the Anaheim Gazette, which indicates some time will expire, in the opinion of one grower at least, before the purple scale is entirely wiped out by the parasite.

Mr. Wm. McLaughlin, of Anaheim, is the writer and he has been a close observer of the work of the parasite.

Editor Gazette: For fear orange growers will be misled by an item which appeared in Saturday's Times, I take this opportunity of stating that the parasite for the purple scale that was imported from China is not doing as well as I had hoped, the flies were liberated in but one tree in my grove. While we can find some work of the parasite on that one tree, I cannot find any on any other tree in the grove.

It may be in a few years, after they become acclimated, they will do the work in a satisfactory manner, as was the case of the scutelista's work, but I would not like to see the ranchers give up fumigating on account of the glowing account of the new parasite's work. To my knowledge there has not been a horticultural commissioner in my grove since the flies were liberated. I only wish they would take a little more interest and help us to at least keep the scale pest under subjection. After living in Riverside where the supervisors and commissioners both take such great interest in keeping the groves clean and obliging the owners to do their part, it seems to me very strange to note the little interest taken in Orange county.

The Navel Orange in Colusa County. Courtesy Colusa County Chamber of Commerce.

Our old friend, Alexander Craw, superintendent of entomology and inspector at Honolulu, reports quantities of lupin seed imported from Italy, which were badly infested with coleopterous larva.

HOLDING HIS OWN.

Hoax—He is exceedingly ill, but he is still holding his own.

Joax—He has to. There are two doctors with him all the time.

HARD LUCK.

Katherine—I would rather be beautiful than wise.

Kidder—You've played in hard luck all around.

Pumped by
The New Pomona Deep Well Pump Head
Pomona Mfg. Co., Pomona

POMONA MANUFACTURING CO., Pomona, Cal. Riverside, Cal., October 8, 1907.

Gentlemen:—In reply to yours requesting privilege of photographing our pumping plant which you installed for us last spring will say: You are perfectly welcome to take as many photos as you wish, and as our season for pumping is practically over, it may be of interest to you to know something of what we have been doing with it. We have raised forty inches of water about two hundred and fifty feet, delivering it through a six-inch pipe line to our reservoir about one and one-half miles distant from the well. The pump is driven by a forty-horse power electric motor, and our tests have shown the actual horse power used to be twenty-seven horse power. The pump has worked perfectly all through the season and is in perfect condition today. It has come up to all that you represented it and met our every expectation. Should you wish to refer to our plant at any time, you will always find it open for your inspection. Yours truly,

RIVERSIDE ARTESIA WATER CO.,
By George H. Kelsey, Supt.,

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ORY OF THE BEE.

een said: "Man is the most
of all the works of God,"
e ever said so but man. Bees
ings a man cannot, and they
gs man never will. A queen
lay more than 1,000,000 eggs
e summer. The eggs she
y day are about double her
These eggs are all alike
y hatch, but by feeding the
erently bees produce drones,
nd queens at will.

takes three days for the
atch. The younger are then
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s feed the others from the
their heads that secrete

he bee is sixteen days old
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year.

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and one queen. The queen
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drone. Drones have no
but queens and workers
e workers are females—un-
queens.

ve five eyes, three they use
in the dark and for reading,
or long-distance hustling.

hive gets too full, the bees
e old ones going away led by
. As soon as the old queen
bees that remain at home
ly grow a new queen.

e very orderly and cleanly.
inspectors that stay at the
e hive and see that no bee
rom the field without a good
honey. Often if the bee
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ew's Day if Bre'er Drone
y. Bees very seldom die in
if they do, it is a sign the
is weak. The bees clean
the dust and dirt with great
f a bug or mouse gets into
ey will straightway kill the
Then if the body is too
em to drag out they will
over and seal it up with
a sticky substance which
from buds or the bark of

f 35,000 workers will often
enty pounds of honey in a
flowers are just right, and
know, who owns eighty-five
had his bees make a ton of
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y a grain of honey a day,
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is a secretion from the bee's
he honey they get from the
he object of the honey in
is that the insect will come
self dusted with pollen,
rries to the flowers. So be-
ring honey, bees do a very
work in the fertilization
—Industrious Hen.

BEES AS FERTILIZERS OF FRUIT BLOSSOMS.

The Ontario Agricultural and Experimental Union, with over 7000 experimenters, consisting of many of the best agriculturists in the province, at its annual meeting at the Ontario Agricultural College, Guelph, Dec. 9 and 10, passed a resoluion requesting the Minister of Agriculture to arrange to have a series of experiments carried out to determine the value of bees in the fertilization of blossoms such as fruit, clover and buckwheat. Prof. H. L. Hutt, B. S. A., Horticulturist at the college, is strongly impressed with the value of bees for his line of agriculture. He gave the following extract from his recent report to the Fruit Experiment Station Board:

In the first place, the weather has been exceptional. The winter was not severe, and fruit trees, as a rule, wintered well. Bloom was abundant; but during the time the trees were in bloom the weather was cold and windy and unfavorable for the working of bees, which are the most active agents in the pollenation of the blossoms. In fact, there were only two bright warm days, and these several days apart, during the whole season of bloom when the bees worked at all freely. Mr. Murray Pettit informed me that he noticed two distinct settings of the fruit on his cherry trees, which he believed corresponded to the two good days the bees had for pollenation.

In the second place, there was an unusual scarcity of honey bees this year to do all the pollenation necessary to the setting of a full crop of fruit. I was informed by a leading beekeeper that not more than 20 per cent of honey bees of the province were wintered successfully last winter. This being the case, it is easy to understand the effect that a scarcity of bees with unfavorable weather for their work had in giving a light crop of fruit. I have noted repeatedly in various parts of the province that some of the most productive orchards have been those in which honey bees are kept, and there is no question in my mind but that it would pay fruit growers well to keep a few hives of bees merely for the purpose of insuring fertilization of fruit blossoms. In sections where fruit farms are close together, as they are in the Niagara district, the growers within a radius of one or two miles might co-operate and employ a competent beekeeper to look after a good-sized apiary.

LIQUEFYING HONEY.

An ideal way to liquefy honey is to bring the entire mass all at one time to the proper temperature. While this is scarcely practical, yet present methods may be much improved. With ordinary methods there is danger of scorching the honey on the outside of the mass while the center is still granulated.

You know that the best way to melt beeswax is to allow it to run away from the solid part as fast as it melts. This principle, I am sure, is the best for liquefying honey. There are many, however, who can not do this; but there is a method that almost any one can follow whereby a great difference between the temperature of the center of the granulated block and that on the outside can be avoided. This method will also reduce the amount of work necessary, and the danger of scorching the honey nearest the source of heat is lessened. Such a method consists in keeping the honey in a warm room (the warmer the better up to 100 degrees,) until the very center of it has the same temperature as the room. A comb of granulated honey put into a hive with a strong colony in some position where the bees will have no desire to replace it with brood, offers us a fine object lesson in liquefying honey. Exposure to a temperature not higher than that of the hive brings it back to the liquid state, and does not impair the quality.—Gleanings.

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You can't afford to take chances on a leaking roof—besides the actual damage it causes, there is no peace for the landlord or the tenant.

Insist on Malthoid and you will have a roof that is absolutely water and weather proof for years to come. Malthoid is the roof that makes good because it is made by the original makers of ready roofings—

The Paraffine Paint Co. San Francisco California
E. G. Judah, General Representative, Security Bldg, Los Angeles

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IS THE LARGEST WEST OF THE ROCKY MOUNTAINS
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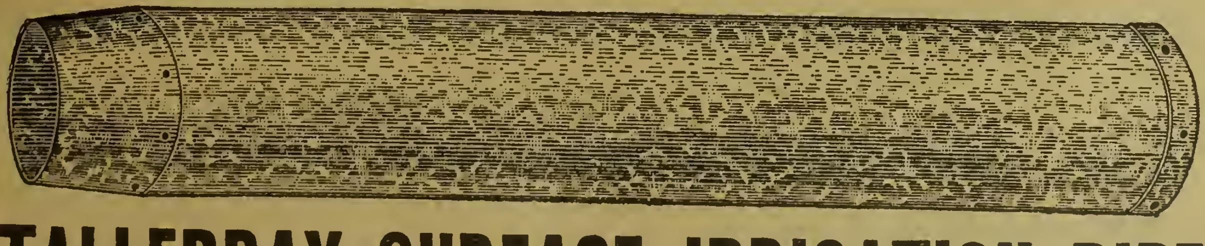

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We have a few varieties left in strawberry plants which we desire to clean up, and make the special low price of $2.00 per thousand. They are strong, thoroughbred plants, and bred from plants that were not allowed to fruit, and embrace the following varieties:

Excelsior, extra early, the greatest of all winter berries, will stand more frost than any other variety.

Lady Thompson, too well known to need any comment.

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AND
NITRATE OF SODA
SAN FRANCISCO FRESNO LOS ANGELES
WRITE FOR PAMPHLET AND PRICES

The Vegetable Gard

OLD FASHIONED HERBS.

Plants embraced in the general terms of "pot herbs" and "sweet" herbs, are those whose foliage contains some aromatic principle useful in and incidental to cookery, the most important being perennial and herbaceous plants of easy cultivation. A few annual kinds are grown occasionally, but the herbs generally cultivated for home and market are sage, thyme, mint, savory, marjoram and hyssop. The first-named is the most popular and generally grown. Large quantities of herbs are produced by market gardeners, several of whom devote most of their time and area to the cultivation of the plants. At all seasons of the year there is a demand for the produce. In spring and summer the herbs are sold in a fresh condition, while at other periods dry herbs only are available.

In market gardens herbs are usually grown in a portion specially reserved for their culture, a plan to be generally recommended even in very small gardens, as the plants occupy a given position for several years as a rule, and should be considered as outside of the rotation and ordinary culture of vegetable crops. A limited area well prepared and tended will produce a quanaity of foliage of good quality sufficient for an ordinary household, while with a much greater quantity of plants scattered about the garden, more or less neglected, a shortage often occurs. It is generally understood that coarse growth is undesirable, the aromatic qualities peculiar to the various plants being present in a lesser degree in gross growths and leaves than those cut from steadily grown and well matured plants. Sufficient root-room, plant food and moisture should be provided to allow a full development of the plants.

The best plan to adopt for home gardens is to select a piece of ground of a size according to requirements, and devote it to herb culture. A narrow border alongside a fence or path is generally found suitable, but it must not be beside a hedge, or large trees, or the plants will suffer unless well manured and watered during the summer. In many gardens the herb ground is tended as carefully as any other portion, and is usually neat and attractive, the plants being set out in rows and neatly trimmed as required, well cultivated and often margined with parsley or thyme. A few minutes hoeing occasionally, or a mulch of manure is sufficient to keep most of the plants in steady growth, and a thorough soaking with water during exceptionally dry weather followed by cultivation when the surface is drying will insure a plenteous supply for the whole year in either a fresh or dried condition.

Thyme and Sage.

Thyme and sage are dwarf shrubs, and are propagated from divisions of the old plants, cuttings or seeds. As a rule the plants are divided and replanted every third year, the central portions being discarded and the outer and most vigorous shoots with roots attached being selected for replanting. Cuttings of firm shoots inserted in sandy soil in autumn root readily, but do not produce as much foliage for cutting as divisions during the first season. Autumn is the proper season for dividing and re-
planting. Sage is often rai
seeds when the plants hav
enfeebled by excessive cutt
seeds germinate freely and
stock of plants may be rai
little trouble. The seeds
sown in autumn or spring,
er for preference. The you
bear transplanting well, and
removed at any time exc
summer and mid-winter, wi
jury. The seedlings should
lowed to grow without muc
of foliage during the first ye
ture plants may be cut seve
in the season; a general cu
drying for winter use is be
when the flowering shoots a
ing. Excepting when wan
seed-saving purposes, herbs
for foliage should not be al
bloom. In all cases a few
should be allowed to rem
each shoot or branch wh
plants are being cut in sum

Hyssop.

Hyssop is almost identical
needs with sage.

Mint, Marjoram and Savory.

The herbaceous plants, mi
joram and savory, are best
adjacent, as they require sligh
ferent treatment at times
shrubs. The shoots of these
the ground in winter, the ro
maining alive. They are pro
from divisions of the roots
tumn or from seeds. Mint is
aily increased from divisions
quires a cooler and moister so
the other herbs. It is a perfe
in some places—a weed being
as "a plant out of place'—w
dry, hot situations it is often
ter of difficulty to establish
such places a liberal quan
cow manure should be added
soil and the plants mulch
watered until thoroughly estab
Shoots should be cut and dri
they approach the flowering s

Sweet marjoram and sweet
are annuals and require to be
annually. They should be sow
rows in spring and thinned to
sufficient room for the plants
velop.—Journal of Agricultu
Victoria.

SCABBY POTATOES.

If your potatoes were sca
year do not plant upon t
ground. The germs of the di
main in the soil from year
Also it is not well to plant u
that has just received a coat o
manure. The germs remain
material.

If you must plant potato
have this disease, treat them
kill the germs.

Take two ounces of corros
mate and dissolve in sixteen
of water. Always use a woo
sel. Soak the potatoes in th
tion for one and one and
hours. Let them dry fully
cutting to plant. In handlin
rank poison be careful about chi
and stock.

Then if you plant on clean, rich
you will be free from scab.

Stranger (going over the co
jail)—But your prison is con
tably furnished. You have
sofas, arm chairs, why is that?
Warden—So that none of the
oners should try to escape—
gende Blaetter.

ꞓ Ornamental Garden

HE NASTURTIUM.

turtium is one of the best ;, both for bedding and for s. For bedding the foliage 's are attractive, and if the cut regularly, both foliage 's are seen at all times. If go to seed they do not l. It is best to cut the ery evening, and if beds this is quite a big task, but he beds gay all the season.

nlike most plants, flower ather poor soil. When the y rich there will be more n flowers.

be stingy with the seeds, where there is a place for e them in large beds, but ant in the shade.

good idea to plant a num- ds in the vegetable garden flowers. There is nothing han a large bowl of the ns; then, they are such a lower.

st to plant them in beds on with the surrounding sur- he raised beds dry out so nd I find best, unless one special provision for wat- n, to have them where so sture will not be required.

ABOUT HYDRANGEAS.

The Chinese Hydangea when well grown is elegant as a specimen, and makes a fine show in a tub on the lawn. It thrives either in sun or partial shade, and likes an abundance of water while growing and blooming. If you want pink flowers apply once a week moderately strong manure water. If you prefer blue flowers strictly avoid manure water and use instead applications of alum water, and stir some iron fillings into the soil. Remove any suckers that appear while the clusters are developing. After the flowers become shabby cut the stem close to the ground, and new shoots will soon spring up. Winter in a frost-proof place, watering sparingly. In spring cut the shoots back to an eye, and the growth will be shorter and develop much larger clusters of flowers.

Planting Beans. Courtesy S. L. Allen & Co., Philadelphia.

ASPARAGUS OR LACE FERN.

This is the name often given to Asparagus plumosus. When the plants seem inclined to make one long vine rather than a bushy growth, nip out the center when the shoots attain the height of a foot or eighteen inches. Sprouts will then appear from the roots or the nodes of the stem. If a plant fails to grow satisfactorily shift it into a larger pot and add porous fibrous loam for the new roots to penetrate. The great beauty of this exquisite foliage plant warrants all the care that can be bestowed upon it. It is really one of the most charming of foliage house plants, and should be one of the first chosen. It has no enemies; its culture is simple, and its propagation is readily affected by seeds, which come up with certainty after they have been in the ground for from three to four weeks.

The note in last week's issue that Imperial valley was planting a thousand acres of cantaloupes, was an error and should have read that the entire valley is planting over 8000 acres, which is more than six times its total acreage last year.

lacer Nurseries

Grapes

cat
ıga
npson's Seedless
lell
ichon
peror
Malvoise
ple Damascus
k Morocco
k Ferrara
y

lmonds

L
e's Seedling
pareil
lus Ultra

Cherries

Knight's Early Black
Early Chapman
Bing
Black Tartarian
Royal Ann
Black Oregon

Apricots

Royal
Moorepark
Blenheim

tlett Pears, Phillips Cling, Orange Cling, Muir, Lovell and Elberta
Peaches, Climax, Wickson and Kelsey Plums, and Hungarian Prune

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To St. Paul—Weekly, via D. & R. G.—U. P. and North-Western through Omaha.
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SALT LAKE ROUTE

When writing advertisers, mention Cultivator.

Irrigation and Fores

EVERY ACRE OF FOREST RESERVED.

At one stroke of the Lieutenant-Governor's pen 150,000,000 acres of forest land in British Columbia have been placed in reserves. This includes every acre of the province's timber lands, except what has been leased. This is as much land as was put in the National Forests of this country between the years 1891 and 1907.

The action was taken to check wasteful exploitation of timber resources and to bring the care and cutting of timber more effectually under government control.

The province has been leasing timber land instead of selling it. The most of the leasing has been done in the past three or four years, and Americans hold the largest part of the 10,000 leases now in force. The lease is, in its effect, a long-term option at low rate. It runs twenty-one years, and may be renewed at the end of the first term.

The lessee pays twenty-five cents a year until he is ready to cut the timber, when he pays a royalty of fifty cents per 1000 feet, board measure, for the timber removed. The income of the province from leases was about $1,275,000 last year.

British Columbia is the latest of the great softwood timber regions to be invaded by lumbermen. The Puget Sound region is still at top notch; but holdings are hard to get, and buyers and speculators have crossed into British Columbia. While there are many rich stands of timber in the province, it is doubtful if the forest woods furnish a cut of more than 100,000,000,000 to 150,000,000,000 feet of lumber—less than this country uses in eighteen months.

A recent issue of this magazine reported the new forest laws of Colombia in South America. That country's northern namesake is not to be outdone in gripping the treasure while it is in hand.

British Columbia does not permit the export of logs cut on provincial land. They must be sawed by mills in the province, which evidently intends not only to take care of its timber, but to make the most out of it. An export duty has been seriously considered by the Dominion Government for all the provinces of Canada. It is apparent that British Columbia will not be slow to take any advantage which the further diminishing of the timber supply of the United States may afford her in the lumber trade.—Forestry and Irrigation.

THRIFT AND IRRIGATION.

William Howard Kirkbride tells in the March "Century" what one man, an engineer, broken down by long, confining work, is accomplishing in Clarkson, Wash., on one acre of land. Joseph Lipe bought a one-acre ranch with a small house and a few fruit trees on it:

"The first few months he passed in experimenting, drawing upon his pension for living expenses. He read all that he could find upon the subject, talked with men who had made a study of irrigation farming and went among those of his neighbors who were successful, working in the fields with them. He saw that the climate, soil and natural conditions were favorable for agriculture in all its diversified forms; he saw the re
tained through the practical
of scientific methods, and t
ligent effort and careful su
were what counted, not the a
land one possessed. So he
work upon his one acre. H
the trees and set out thirty
different varieties; he plowe
old vegetables and vines and
new ones; he sold the half d
chickens and replaced them b
oughbred black Spanish roo
three hens, and built them a
yard, sowing it to wheat.

"From the main lateral, run
his house, he extended a sm
across the west end of the t
this flume he placed a series
and plugs. Now, by removin
the plugs, a small rivulet of w
made to flow between a certa
trees. When the thirsty ro
been refreshed he replaced t
turned the stop, and the n
received a watering. A few r
with the hoe and the rivulet w
to wind in and out among p
vegetables to any part of
ranch. A turn of the hand
'rain' was over.

"He soon learned in just wh
tities each tree and vegetable
the life-giving moisture, with
sult that his crops have nev
ished for want of water or
from excess of it.

"At the end of the first y
pension went into the bank. T
of fruits, vegetables and chick
not only paid all living expen
had left a surplus as well. T
returned to the land for improv
The house was painted, new
houses were built and the ol
was replaced by a neat wire on

"People, hearing of the gre
cess, came to see for themselv
much could be grown on one a
augmenting the owners' pride a
terest in their venture. Wh
husband experimented with eve
riety of fruit and vegetable, and
which were the best growers a
lers, the wife experimented
preserves until they became as f
as her husband's crops. Wint
summer, spring and autumn, the
raising something, until flour
were virtually all that they had
Each year there were more
ments, better crops and larg
and each year more money w
the bank with the pension."

An Englishman rainmaker,
ing in India, has an apparat
sisting of a rocket capable
to the height of a mile con
reservoir of ether. In its d
opens like a parachute, comi
slowly. The ether is throw
like fine spray, and its ab
of heat is said to lower the t
ture about it sufficiently to
vapor and produce a limit

"Tompkins has got mor
than any man I ever met."

"What now?"

"He came over to my place y
day to borrow my gun, sayin
wanted to kill a dog that kept
awake at night.

"Well, what of it?"

"It was my dog he killed."
waukee Sentinel.

Mr. Rich—Sam, is it true that
confiscate your neighbor's chick
Sam—No, sah; I fricazees 'em

eries and Replies

ns to be answered in this department should be received at this office
ek before reply is expected. Write plainly on one side of the paper and
ll name and address. Unsigned communications receive no attention.—

nia—Linnets and Laws.

u tell me if State of Penn-
has any linnets? Also how
erest can a company charge
ning money on first mort-
loan company at Pittsburg
ged me 12 per cent.—W. B.
Paula.

nnot say as to linnets, but
oubt Pennsylvania has them
near relations.

al rate of interest is 6 per
d the most that can be
ollected under contract or
is 6 per cent.

—China Geese.

u give me the address of
whom I may secure White
ese; also peacocks?—V. V.
me of our readers who have
hina geese and peacocks to
their names to this office
n forward to V. V.

per.

l you will find some flies
ves the abutilon plant.
ts first looked like the eggs
aves but when hatched are
een flies like those in-
have sprayed with an in-
tobacco and sprinkled with
but does not seem to help.
t I don't notice them on
else.—Subscriber, Healds-

sect which you send is
circellata or one of the
pers. As a rule, it is not
enough to do great damage.
emulsion will destroy

Birds.

poultry ranch we have a
edge to break the wind and
hade for the chickens. This
the harboring place of lots
, mostly linnets. When
s but a limited number of
did not disturb them, but
year they have so in-
n number that they have be-
uisance. They not only eat
feed intended for the chick-
will eat off the ground any-
plant. Two months ago
ed, or rather sowed, alfalfa
a patch for the chickens, but
r had the tiny leaves came
the linnets did away with
he same applies to any
ng we plant. This state of
unbearable. We have de-
rid ourselves of the greater
hese intruders. I have tried
them, but that process is
and takes up too much of
. I, therefore, come to you
tance, begging you to give
gh the Cultivator, your for-
poisoning the little pests.
some strychnine (powdered)
ranch and tried poisoning.
however, that my solution
weak, as I cannot find any
ls. I dissolved some powder
e size of a pea in warm
d soaked about a quart of
wheat, cracked corn, whole
nd millet in it. The birds
grains, but they do not seem
ected by the poison in any
poisoning grains is the saf-
please let me know how to
is it more advisable to pois-
rinking water to be put up
rees? I have to be careful,
. not to poison our chick-
H., Lankershim.

hard proposition and one
w enjoy, but situated as
possibly poisoning is per-
Linnets are surely de-
One-eighth ounce of strych-
three gallons water placed in
tins through the trees or gathering place, is said to do the work. Pieces of oranges with poison inserted is also death to them.

Onion Thrips.

Will you please tell me through the columns of your paper what to do for thrips on onions. The onions all over the valley seem to be affected by this little insect.—T. M., Yuma.

Spray with weak kerosene emulsion.

Alfalfa.

The alfalfa in some portions of my meadows makes a poor yield of hay. Will it pay to apply nitrate of soda and disk it in?—S. W., Imperial.

It is impossible to give treatment without knowing more of conditions. But do not think nitrate of soda would pay. Alfalfa gets its nitrogen very easily. We imagine the disking in of stable manure on those spots, to give better mechanical condition of soil, might be beneficial.

Fungus on Grape Roots.

I have twelve acres in Mission vines five years old and grafted to resistants. I enclose specimen of bark which is indicative of the condition of nearly all my vines just below the surface of the earth and extending downward almost to the base. A great many of the vines have no bark from the surface down. Will you kindly inform me if this is a disease, and if so, please give diagnosis, symptoms and treatment?—Amateur.

The above with the decayed bark samples, were submitted to Prof. Ralph E. Smith of the Whittier laboratory, and he writes:

From an examination of the specimen enclosed with your correspondent's letter showing the trouble with grape vines, it would appear that the vines are affected with the root rot, or so-called "oak fungus," or toad-stool disease. This condition is brought about by a toad-stool-fungus, which grows into the bark of the root or of the stem below ground, causing its decay and the death of the vine. The disease is common on various kinds of fruit trees on land where oak trees have formerly stood, and it is the general opinion that the toad-stool fungus develops on the old oak roots in the soil and spreads thence to the fruit tree or vine. This idea is apparently founded on fact.

There is no effective remedy whatever than can be suggested for this trouble. It affects almost all the common fruits and cannot be checked when once started. The pear seems to be the most immune of anything. If the affected tree is removed with as many of the roots as possible, digging out a larger hole and filling it again with fresh soil from another place, the trouble is sometimes overcome, although frequently the new tree perishes like its predecessor.

Slicker Coat Leak.

For the information of the subscriber who wished to stop the leak in his slicker coat allow me to suggest that boiled linseed oil painted on with a brush, the same as of painting on wood has fixed my coat nicely for three years now. After oiling

MORSE SEEDS SPROUT—YOU AND NATURE DO THE REST
PACIFIC COAST HEADQUARTERS for BEST SEEDS

SEEDS We Grow Them—YOU SOW THEM

If interested in a quick growing valuable tree you can plant on unused ground read the following about

ACACIA MELANOXYLON

Baron Von Mueller, in his "Select Extra-Tropical Plants," writes of this tree:

"This well-known Blackwood of our river flats and moist forest valleys. In irrigated glens of deep soil, the tree will attain a height of 80 feet, with a stem several feet in diameter. The wood is most valuable for furniture, railway and other carriages, boat-building (stem and stern posts, ribs, rudder), for tool handles, crutches, some portions of the work of organ builders, casks, billiard-tables, pianofortes (for sound boards and actions), and numerous other purposes. The fine grained wood is cut into veneers. It takes a polish, and is almost equal to walnut. Our best wood for bending under steam; it does not warp or twist."

The great billiard-table firm of Alcock & Co., in Sidney and Melbourne, have been making tables from it for the last eight years, and at the exhibition of 1888, there was a piano cased with it which was as handsome a piece of parlor furniture as one could wish to own. The Martini-Henry Rifle Co. have been using it for gun stocks for the last fifteen years, because they could get it much cheaper than the French walnut hitherto used by them.

We have a fine lot of these trees, which you will find priced on page 73 of our 1908 catalogue, mailed free, on request.

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Every melon was perfect and picked in early season. No "cull melon" seed go into our stock. When cut, every melon was carefully examined and if not up to standard was rejected. This extra select stock in sealed packages, at $1.50 per pound; one-fourth pound, 40c.
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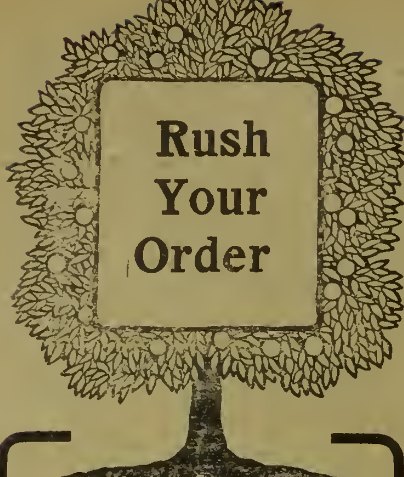

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hang coat on line for two or three days or until well dried. It works like a charm.—C. E. Hinds, Los Angeles.

Fungus from Trees.

What mixture would you use for spraying prune trees to remove moss? And how is it prepared? Also the preparation for fungus on pear trees and oblige.—B. K., Coclistoque.

The lime, sulphur and salt is good, or if this is too much work to mix a simple caustic solution put on before the leaves start will accomplish results. The strength should be about six gallons of water to one pound of concentrated potash or caustic soda.

Planting Tree Seed.

What time of year is best to sow? How old should seed be and under what conditions will seeds of the following trees best germinate? Blue gum, pepper and cypress.—J. M. B., Anaheim.

August is best. The young plants will then be ready for the next spring's planting, and the seed or young plants require less attention than if planted at this time.

Lupine.

I send under separate cover a plant. I would like to know what it is and whether it has any value as a soil builder. Please answer through your valuable paper.—John Frater, Greenfield.

The plant is the Blue Lupine—Lupine hirsutas. It is excellent as a soil builder. The roots of the plant which you send were covered with the little nodules showing its nitrogen-gathering power.

Tree Props.

Can you tell me where I can obtain tree supports or the attachments to put on stakes, made of wire or solid metal.—J. H., Nordroff.

J. K. Woodward, of Riverside; also the Hoyt Tree Prop Co., of Watsonville, handle supports.

Cuttings True to Parent.

Will you be kind enough to give me information in regard to olive cuttings. I have rooted some made from a Manzanillo tree. Do they have to be grafted or budded to produce fruit of the same variety?—A. J. O., Fresno.

They do not. Seedlings may vary, but any cutting is always the same as the tree from which taken.

Aphis on Strawberries.

I have several acres of strawberries attacked with a blight; when it first makes its appearance it resembles the rose bush blight, and then turns to a small, white fly which hops and flies. The leaves wither and curl and die. Do you know of a remedy for this disease? Enclosed are some of the affected leaves.—Subscriber.

This is an aggravated case of plants attacked by aphis. Although we have more or less of it every spring, it has not been serious. I do not remember to have seen the strawberry so badly affected as these sample leaves indicate, although I have seen as bad or even worse on melon vines. Four years ago I had an acre of strawberries that were badly infested with aphis just as the fruit began to ripen and after a careful examination I concluded if they did not disappear within a few days I would not attempt to market the fruit, for I did not care to injure our reputation for extra fine fruit. On looking over the grounds a day later I thought I detected quite a decrease in the numbers of the pest and within three days they had entirely disappeared.

I know of no practical remedy that can be applied on a large scale. Any form of tobacco is death to the whole aphis family, but the difficulty is in finding any practical way of applying it in open field so that the entire plant can be reached. It is possible "Subscriber" will find, as we do, that a little later in the season they will disappear—destroyed possibly by some parasites or atmospheric influence.—Q. A. L.

Fertilizers.

I would like to ask you a few questions about fertilizers. Is it too late in the season to use barnyard fertilizer on an orange grove to help next crop? What do you think about nitrate of soda to be used this time of year as a fertilizer? Do you think its use prevents the young oranges from falling off? The grove has been neglected and we want to use the best to get the best and quickest results. Soil is heavy, but considered good.—P. M., Charter Oak.

We would use the stable manure by all means and at all times and at any time when it can be secured. For immediate results the nitrate of soda is, of course, preferable. The manure, if thoroughly rotted, would soon become incorporated in soil and gradually become available to roots. If not rotted it will take much longer.

Many growers think the nitrate of soda is excellent to give vigor to a tree and cause it to hold a greater proportion of fruit. You will make no mistake to give an early, light dressing of the nitrate. If the grove has been neglected, follow the nitrate dressing with all the stable manure you can afford, then green manure next fall.

Kaffir Corn.

Please give what information you can in your valuable paper in regard to Kaffir corn, when and how to plant and how much irrigation is necessary.—A. L. Smith, Delano.

Plant same as Egyptian corn and as soon as danger of frost is past. You can drill in and cultivate and irrigate or sow broadcast and flood like alfalfa, if your land is contoured and you have sufficient water. Many Imperial valley growers follow this method.

$25,000 Reward.

I have been informed by growers here that the Walnut Growers' Association offer a reward for an article that will cure the blight on walnut trees. Can you give me any light on the subject? Who should I take the matter up with?—Subscriber.

It has been persistently rumored that a standing reward of $25,000 is offered for a cure for the blight. It would mean so much to the industry that several times that reward, as great as it is, could well be offered. The belief that a remedy would never be found is so general that we believe the twenty-five thousand has never been gotten together. In fact, the most intelligent walnut growers assert that a remedy is an impossibility. However, should any one be so fortunate as to discover the remedy, we do not question that the various associations would soon gather together the money. The

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

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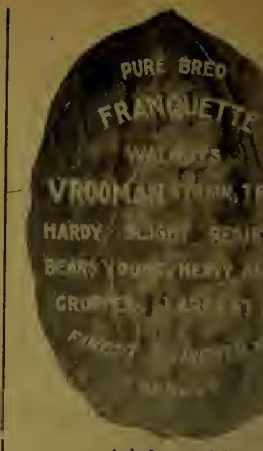

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hoppers or dry wind
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ing has 88 animals plowing for t
coming crop.

etary of the association is J. A.
tgomery, Rivera.

toes in Sun.

indly answer through your col-
s, if potatoes (Burbank) that
been out in sunshine and rain
through the winter piled up in
s (no further protection) or
up in a pile, should not be used
seeds.—Q. A. K., Arroyo Grande.
they will sprout they will be all
t. That you can readily deter-
e. We presume they will, and
they will make good seed.

ns.

nother question I would like to have
vered through the paper is what
he best time to plant onions in
part of the State? If planted
will the heat of the summer in-
them? How long does it take a
onion to mature? If intended
a winter crop, what is the right
to plant them?—W. H. M.
e Mr. Murdock's article in issue
larch 12.

, Ashes, Etc. for Cattle.

me months ago I noticed an ar-
in the Cultivator recommeding a
ture of salt, ashes, and something
, to be kept where the cow has
ss to it. In looking through the
numbers, I have been unable to
it. Will you please repeat the
ula?—D., Pomona.
e do not recall the formula, or
n it occurred in the Cultivator.
, sulphur and charcoal, or some-
s wood ashes, are mixed and kept
re hogs. It is probable the same
ld be good for cattle. Will some
ur subscribers give of their expe-
ce?

ali.

am a subscriber to your paper,
ch I regard as the best agricultu-
and horticultural paper which ever
e to my hands. Am a newcomer
his country, and would like some
rmation. What is this alkali we
e in spots here? Is it a true alkali
., to be neutralized by an acid?
here any remedy? Is it caused or
ravated by irrigation? If there is
li around the house can flowers
rown? Does it kill palms? These
only a few of the many questions
ch occur to the uninitiated one on
acquaintance with this peculiar
stance. What is the chemical
e for the white, and also the black
ties?
ou will greatly oblige a subscriber
supplying this information through
r columns, or by mail.—Arnold F.
rge, Downey.
is a true alkali, and if you could
rd it you could probably neutralize
ith an acid. Some alkali lands
been reclaimed, and are always
y rich when reclaimed. There
ms to be no short or royal road, but
a series of crops and by under-
nage fairly good results are ob-
ed.
Black alkali" is carbonate of soda,
sal soda, while "white alkali" is
uber's salts. Black alkali is the
st destructive, and may be changed
white alkali by heavy applications
ypsum or land plaster.
is too big a question to answer in
query columns, or even in this
er, but later more attention may
given to it. It is quite fully dis-
sed in "Soils," by Hilgard.

SOME SILLY ARGUMENTS.

ll sorts of criticisms have been and
being hurled at the parcels-post
posals. The latest is that it pays
y in countries having a small area.
example, the Irrigation Age com-
es the British Islands with Ohio,
iana and Illinois, which latter are
00 square miles larger than the
tannic Islands of His Majesty King Edward, says a writer in Gleanings in Bee Culture.

These critics forget that the British parcels post extends over an area three times as large as the United States. It embraces Canada, West Indies, Australia, India, South Africa, Central Africa, and various other colonies, so that this criticism has no foundation on which to rest.

In the instance of France, the case is not much different. The word "France" includes Algeria, an immense country, the French West Indies, and Indo-China, an area of land as large at least as the United States. But we can go nearer home, for Uncle Sam has a parcels-post service with many countries. We have every reason to believe this service is done in first-class style and at much lower rates than any express company would do it; and a curious fact in this connection is that the foreign rates for parcels post are lower than the domestic. To make this clear we will instance an hypothetical case. If one wants to send four pounds to a customer in this country, the charge is 64 cents; but if the customer lives in Central America, or some other far-away country, the charge would not exceed 48 cents.

Some California Vegetables.

Courtesy Johnson & Musser Seed Co.

We understand that Senator Platt, who "owns" two express companies, has already boasted that there would be no parcels-post legislation at this session of Congress. It would go through a good deal sooner if the farmers would give their Congressman to understand that they fully expect him to do all in his power to help this reform in our postal laws, for it is only a reform, nothing more. We have parcels post already, and have had it for years; but the rate is too high for it to be a success. It was purposely made so to suit the express companies; but the necessity for protecting their business has long since ceased to exist.

The Cost of Parcels Post.

One of the stock arguments against the parcels post is its cost, and quite a number are being misled into the belief that it will result in a great postal deficit. Now, what are the facts? Great Britain, with an immense business at very low rates, has an annual postal surplus now of not less than $20,000,000, and in one instance we believe it was $35,000,000. Germany also has a very liberal parcels-post arrangement, and her annual surplus over all expenses is nearly $15,000,000. France usually has a postal surplus of something like $10,000,000, though she too has liberal parcels-post facilities.

It is the United States which has always a postal deficit which Uncle Sam's treasury has to make good. Parcels post would, to a very great extent, stop this deficiency, and put the postoffice on a paying basis. Many small postoffices would begin to pay or hold their own if we had a true parcels-post system such as a great nation ought to have.

In any event, the bee-keepers have a use for a parcels post; so have the egg-raisers; and even the butter-makers can despatch their goods by parcels post to customers. We are going to have it.

Parcels Post in the Senate.

Senator Burnham of New Hampshire, on Feb. 10 introduced a bill in the national Senate authorizing a parcels post on rural routes. The bill has the endorsement of President Roosevelt and Postmaster-General Meyer. It provides for a rate of 5 cents for the first pound and 2 cents for each additional pound. The limit is 11 lbs. On the same date Senator Kean, of New Jersey, introduced a bill providing for the lowering of the present parcels-post rate from 16 to 12 cents, and increasing the maximum weight from 4 to 11 lbs. It seems to us the rate of 12 cents is oppressive, and might with great propriety be reduced to 8 cents per lb., and probably a flat rate of 5 cents would pay the best of all.

CRANE FLY DESTROYS CROPS.

The department of agriculture has received for the past two months reports from various parts of the State of the devastations wrought by a certain worm which has eaten the grass and grain roots. Damage has been reported from as far north as Marysville to Mariposa on the south, and from the San Joaquin and Sacramento valleys to a considerable distance into the foothills. The worm seems to take the roots of the growing grain and grass and utterly destroys the crop. Experts of the university have been in the field for some time studying the problem and they report that the wrost of the damage has now been done and things are on the mend. The worm is the larvae of the crane fly. They are at this time practically full grown and before long will become flies and the damage for this season will be over. The crane fly appears to be peculiar to this locality and has occured before. It never has shown itself in such large numbers as this year and there is a strong prospect that it will not recur again next year as it has for the last three months. There seems to be no remedy for the pest, and untold damage has been wrought thereby.

TO BE HAD FOR THE ASKING.

Messrs. Woodin & Little, the San Francisco pump and farm machinery people, are now in their new quarters at 70 and 72 Fremont street. The new quarters are more complete, commodious and comfortable than any occupied by this firm. The store room is completely stocked with centrifugal and other pumps, gasoline engines, wind mills, tanks and other things two numerous to mention. Every farmer should write for catalogue B. It's chuck full of information and may be had for the asking.

The Separator News published by the Sharples Separator Co., of West Chester, Pa., is received and is full of information of cream separator matters. A postal card will cause a coyp to be sent to any farmer asking for it.

Little puffs of powder,
Little dabs of paint,
Make the chorus lady
Look like what she ain't.

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General Agriculture

IS YOUR FARM NAMED?

DIGNIFY your farm by giving it a name. There are abundant reasons for it. Amongst them we note the following in a Northern exchange:

Is your farm named?

If it is not, name it as soon as you can decide upon a name, and then have that name painted on an arch over the entrance or some other conspicuous place.

Have some letter heads and envelopes printed with the name of your farm, and perhaps a picture of the building or the thing which you wish to be best known about it.

The fact that your farm is named gives it a distinction apart from the unnamed farms about it. When the editor of your local paper prints an item about you or your products, always have him mention the name of your farm. It will only be a little while until your farm name will be a constant advertisement to your financial good and gain.

Every man, woman or child who drives along the road will read the name and will remember it long after they have forgotten the place otherwise. When they speak of you or your farm products the name will unconsciously come to their minds, and a certain indefinable prestige will come to you through the fact.

Another advantage in naming the farm comes in the additional pride in the place. You will find that the help will join you in the effort to keep the weeds down in the fence corners an along the roads, to keep the gates and fences in repair, the barn lot tidy and the grass in the front lot neatly trimmed. It is wonderful what this element of pride will do for a household, and how it will increase the profits from the farm by furnishing an additional motive to have everything done as it should be.

Again, if your farm is not already named, name it right away.

PAINTING SHINGLE ROOFS.

With the present extraordinarily high prices for all classes of lumber, the subject of employing wooden shingles for roofing is a very vital one of dollars and cents to the property owner. If we are to use shingles, we should certainly take every precaution to make them durable and lasting, says a writer in Country Gentleman.

The house in which I now live was built in 1873 by my father. It has a Mansard roof, covered top and sides with wooden shingles and painted after the shingles were laid. For paint we have used natural graphite ground in oil, applying one coat, on an average, once in five years. This makes an exceedingly durable and satisfactory covering in every way, as the graphite wears well and looks fine, resembling natural slate in color. In fact, so closely does the roof resemble slate that we have had our neighbors remark after passing daily by the house for years that they certainly thought we had a slate roof, and were very much surprised that such was not the actual case.

This roof has been on fully thirty-four years. It has never been reshingled, and is as sound and good today as it ever was. This certainly is an emphatic contradiction of the opinion held by many people that the painting of shingles after they have been laid does not increase their durability. To be sure, it is better to dip the shingles in paint before laying. In this way all parts of every shingle are covered and protected. But the roof in question has most assured lasted splendidly with only painting after laying.

There is no better black paint th graphite for all severely exposed s faces such as roofs. If a red color preferred, use oxide of iron ground i oil. We have within a few years p a shingle roof on another building In this case we dipped all the shingle completely before laying. This makes a perfect job, as, if the roof is oc a sionally painted, the shingles will la well-nigh forever.

Pay particular attention to the nail

used in shingling. What is wanted the old-fashioned iron cut nail. Ne ther steel nor wire nails are dura as they rust in a few years and al the shingles to blow off from the ro Be very careful in laying shingles have good, wide laps. Many supp edly good carpenters are careless this way, failing to cover cracks an nails as they should. Too much pai cannot be taken in putting on a r which is expected to be perfectly ti and dry for many years.

GOOD ROADS AND FARM VALUE

The direct connection between go roads and the value of farm land shown in a striking manner in Bul tin No. 38 of the U. S. Department Agriculture. This bulletin give t results of an ivestigation by the O fice of Public Roads of that depar ment relating to public road milea revenues, improved roads and expe ditures in the United States in t year 1904, and the information co tained therein is of great importan in connection with the movement behalf of the systematic improv ment of the public highways.

The returns from various Stat show that in nearly every case t States having the highest percenta f improved roads have the largest population per mile of road, thus howing that better roads are a powerful factor in encouraging the ettlement of unused lands, especially n sparsely populated sections of the country. Good roads are also an important influence in retaining in the farming districts the desirable elements who might otherwise drift into he towns and cities. As the price of arm lands depends on their produc-ivity, accessibility to markets and population engaged, or desiring to engage, in agricultural pursuits, it follows that road improvement, by attracting additional settlers, and giving them better facilities for reaching their markets, directly tends o increase the values of all farm lands within the radius of the roads improved.

A comparison of percentage of improved roads of the various States shows that the average percentage of the improved roads in all States where farm land is worth less than $20.00 per acre is only 1.9 per cent, whereas in the States where the acreage value is more than $20.00, improved roads constitute an average of 9 per cent of the total mileage.

While there may be minor causes of variations in the value of farm lands it is an undoubted fact that, as a general rule, the higher values of certain States are largely due to their superior roads. Records on file in the Office of the Public Roads show that farm lands have been known to advance in value from 50 to 500 per cent on account of the improvement of the roads connecting them wtih market towns.

When the facts secured by the Department of Agriculture become known to the farmers of the country, and they realize that the establishment of a complete system of properly constructed public roads will have the direct effect of greatly increasing the value of their farms, they will be the foremost advocates of a broad, comprehensive policy of public road improvement by the Nation, States, counties and townships.

Hay is now commanding $25 per ton in Imperial valley.

of Lettuce in Flower.

Courtesy Johnson & Musser Seed Co.

FARMERS' NATIONAL CONGRESS.

The next session of the Farmers' National Congress will be held at Madison, Wisconsin, opening September 24. In several respects it already promises to be the most notable ever held. Although the congress has been a strong friend of the agricultural colleges and has consistently favored liberal appropriations for agricultural education, this will be the first time it has ever met in an agricultural college town.

One of the most valuable features of the 1908 sessions will be the opportunity to see one of the leading and best agricultural colleges of the country and study it and the work of these institutions at close range. Further than that the Wisconsin college has an unusual number of persons connected with it of much more than average ability and reputation. Ex-Gov. Hoard is chairman of the Board of Regents. W. A. Henry, emeritus professor of agriculture, is well known through the country and his book on "Feeds and Feeding" is a household bible in thousands of farm homes. The Babocck test has revolutionized dairying and the word Babcock has thereby become so general that it is used now as an adjective and a verb. Prof. S. M. Babcock, the father of this, is one of the professors at the agricultural college.

Then without particularizing further there are Russell, Farrington, Woll and many others of exceptional standing. The opportunity to see and hear such men, and visit such a college would be, without other features on the program, a rich and unusual treat. But besides all this President Cameron will provide a most excellent program. Taking it all in all this session will be richly worth a long journey and the necessary time and expense. We hope that every one of the Pacific Coast States will be represented by strong delegations.

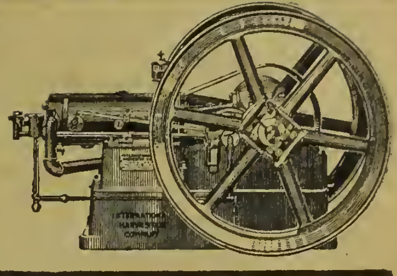
ABSENT-MINDEDNESS.

Customer (to dairyman)—But this is nothing but water that you have given me.

Dairyman—Oh, how foolish! I forgot to put milk into it.

—The De Laval Monthly.

The GREAT AMERICAN DESERT is DISAPPEARING



THE great ranges are fast being taken up by individual settlers, and thousands of prosperous farmers are taking the place of the few cattle kings that were monarchs of the ranges a score of years ago.

It is the story of the magic touch of water upon the dry land.

I. H. C. Gasoline Engines in Irrigation Enterprises.

If you have not kept yourself posted on irrigating matters, you will be surprised at the important part I. H. C. gasoline engines are taking in the reclamation of these waste lands.

Hundreds of settlers and farmers have no other means of getting water upon their lands than these engines.

These settlers and farmers are cultivating all sizes of farms, from garden spots to "forties" and "eighties" and quarter sections and even larger tracts. They are among the most prosperous farmers in the irrigated sections. They are raising grains, alfalfa and other grasses—vegetables, fruits, etc.

They find that with an I. H. C. engine they can get water in large quantities upon their land, and that they can get it dependably and economically. They find the I. H. C. engine method of pumping more direct, more profitable and more satisfactory than any other means heretofore employed.

I. H. C. gasoline engines are simple, dependable and powerful. They pump water economically, and you will find that they run with very little attention.

If you have an irrigation problem it will pay you to investigate and see what an I. H. C. gasoline engine will do for you.

Vertical engines in 2 and 3-Horse Power.

Horizontal engines (Portable and Stationary) in 4, 6, 8, 10, 12, 15 and 20-Horse Power.

Also, gasoline traction engines, pumping, sawing and spraying outfits.

Call on the International local agent, or write the nearest branch house for catalog and colored hanger.

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ACTUAL CAPACITY 25 TO 50 % MORE

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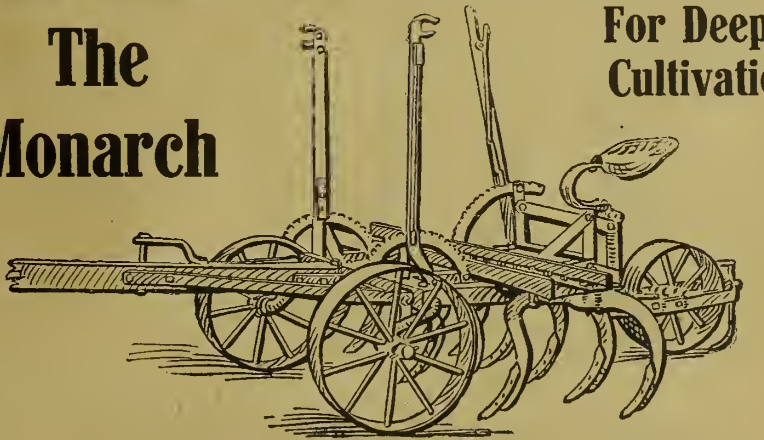

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Killefer-Griffith Mfg. Co. *1336-1338 Palmetto St., Los Angeles, Cal.*

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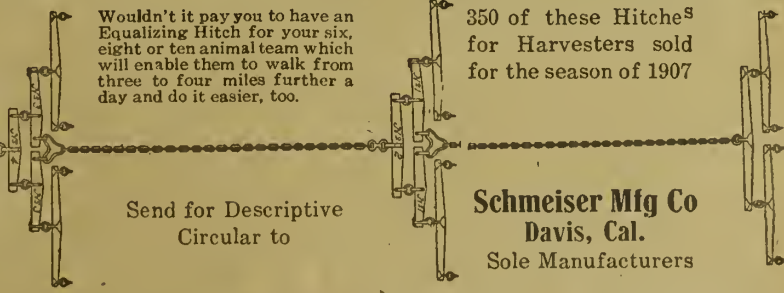

Wouldn't it pay you to have an Equalizing Hitch for your six, eight or ten animal team which will enable them to walk from three to four miles further a day and do it easier, too.

350 of these Hitches for Harvesters sold for the season of 1907

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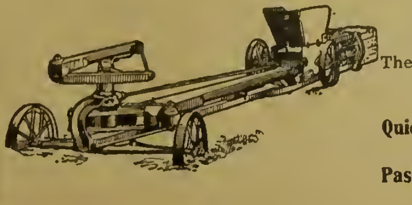

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CALIFORNIA FIELD LABORERS.

The ranchers in the northern part of this State are considerably exercised over the attitude of certain Congressmen from California, regarding the question of Japanese exclusion.

As is well known, there are two or three of these representatives who are determined to force an act through Congress which will be so drastic that it will not only result in deporting almost all the Japanese today in California, but prohibit any further immigration. This the ranchers are generally opposed to.

They say when the Japanese are crowded out of the country the farmers will have to depend on a most inferior class of white labor, with the result of immeasureable loss. Bad as Japanese help often is, it is better, as a rule, than "the poor white trash" which floats from the city to the country and can not be relied upon. Said a large ranchman to us recently: "If an exclusion act is passed, the Japanese will leave the country and the farm owner will be left to shift for himself the best he can. With such unreliable help as he frequently finds in white labor he is up against a serious proposition. His crops will rot on the ground about two-thirds of the time, for white labor in California is not a thing to depend on."

Discussing this subject recently, one of our State papers takes strong ground against a hard and fast exclusion act because, first, it is unwise, and second, not humane. We read:

"The sentiment in California is generally broad, just and humane. We wish to see Japanese immigration put under proper restraint on a mutual agreement between the two governments. This is perfectly feasible if on a just basis. We do not wish to see all Japanese persons excluded from this State. On the contrary, we would be glad to see the treaty with China so modified as to permit some of those people to be admitted here. We need them. The Chinese are preferred by our people to the Japanese on their general merits.

But above all, the people of California wish to see any laws that may exist applied in a spirit of justice and common humanity. This desire grows first and most out of a spirit of justice in our people, and out of a feeling of humanity. In a secondary sense we wish to see the laws executed in this spirit in order to cultivate a feeling of friendship between our country and both China and Japan, in order to make trade btween us and them easier."

What interests the California rancher is not so much the question of ethics as the question of expedients. What he will do for hired help if the Japanese are driven from the country.

The Jap is not a pleasant character to deal with generally, but he is more faithful and plodding than the white man in his class, therefore the more desirable as a laborer on the farm. These are the views of nine-tenths of the people of California, in fact, all except the labor agitators whose business it is to stir up contention between capital and labor.

NEW CO-OPERATIVE PLAN.

Down in Maine the farmers are working out a scheme, through the grange, to form a system of marketing farm produce, whereby the commission man's profit may be saved to the producer. It started about two years ago, in several localities, with a chain of storage houses owned by the members of the grange. In these warehouses each farmer keeps his own crops separate and sells them direct to the wholesaler, so that he receives the profit of his own labor. Thus apples carefully packed and graded need not help to sell another's apples carelessly packed and not graded. The association thus handling thousands of bushels of fruit would be able to control the export trade in the State. It is understood that the farmer would be under no obligations to have his crop sold by the association, but would attend to it himself if he chose to, but all produce will be required to come up to the standard set by the association. The scheme originated in the attempt to create a higher standard in the case of fruit, among those who were careless about selecting and packing, and consequently worked injury to the trade as a whole. The plan is said to be productive of good results and to have raised the grade of apples several points.

Carelessness among packers has injured the fruit business in California to an extent which would be difficult to determine. Small fruits especially have suffered, and growers have lost large sums of money because they would not exercise more care in selecting and packing for the market. If some general plan were adopted by producers in this State to compel a uniform system of grading and packing small fruits, much of the honest criticism which now attaches to our shipments abroad would be silenced and our fruit become much more popular than it is today in the eastern markets.

The outcome of the Maine plan of co-operative selling will be watched with interest, and if it proves successful it is likely to be adopted in other States.

TO GRADE GRAIN.

Secretary Wilson has asked authority from Congress to standardize the grading of grain. So many different methods and systems are in vogue, in different markets, it leads to confusion, especially with wheat, corn, oats, rye and barley. In order to bring about uniform methods of grading grain it is first necessary to fix standards, and during the past year laboratory tests have been made with a view to determining proper standards. Secretary Wilson believes that there should be national inspection of all grain entering interstate and foreign commerce, and he has asked Congress to give authority for this. He believes such inspection would be of great benefit to the producer and to the dealer. He says that the producers have suffered through the lack of uniformity in grading, and our markets abroad are injured by lack of confidence in the grades established.

NOT A LOCAL PAPER.

We notice some of our exchanges in the San Joaquin valley refer to the California Cultivator as a **SOUTHERN** California publication. This is erroneous for the Cultivator circulates as extensively north of the Tehachepi as south of it, and our office at San Francisco is as much a fixture of the Cultivator as the office at Los Angeles.

With over 6000 subscribers north of the Tehachepi, an office at San Francisco, and as much space devoted to Northern and Central California as is devoted to Southern California, we naturally belong to the State at large and not to any particular section of it.

WHITTIER INSTITUTE.

The Cultivator goes to press as the Whittier Farmers' Institute is in progress. Next week a general resume of the proceedings of this important meeting will be given. Profs. Wickson Woodworth, Smith, Ramsey and Clarke are present, rendering valuable assistance to conductor Neff. The sessions are well attended and the addresses of a high order.

In the year 1908 let us all see if we can not improve in our methods over 1907, in our moral natures, in our home life, in our dealings with our fellows. In short, carry the thought of improvement all along the line, in our farm homes, in our methods of cultivating, irrigating and fertilizing. This principle of betterment will lead farmers to paint their buildings and fences, to improve their roads, their stock, to make things brighter for the women and children, in short, to make everybody and everything happier. Rowland Hill, the Scotch evangelist, said: "I wouldn't give anything for the Christianity of a man whose dog and cat are not better off for his religion." After all, religion is only a principle of betterment which should be carried everywhere and into everything, bringing, as the Deseret News puts it, "better churches, better farm houses, better clothes, better carriages, better horses, better cattle, and these attained, means better boys and girls, better men and better women.

Shop Talk

"THE PERFECTED POULTRY OF AMERICA."

In the "Book Review" column of this issue and on another page is a description of the above-named book. It is certainly worth the attention of every poultry breeder who pays any attention to quality in his stock and the **CULTIVATOR** is able to supply such breeders with books.

The price of the book is $2.50, but to promote the welfare of the industry we have arranged matters so that for the price of $2.50 we will also give a year's subscription to the **CULTIVATOR**.

The book is beautifully bound and contains such elegant drawings and cuts describing all the breeds of fowls that no well regulated poultry ranch should be without it.

Even the individual feathers from every part of the fowl are shown so every breeder can judge accurately his own birds.

In our offer you receive the book, prepaid, at regular price, and the **CULTIVATOR** free. Either new subscriptions or renewals are accepted on this offer. It is certainly a good investment and we shall be glad to attend to the matter for you at once.

F. J. B., Phoenix, Ariz., says: "Best journal west of Kansas City for Salt River Valley ranchers."

L. B. M., Tulare, remits and says: "I consider this a very profitable investment."

R. H. B., Riverside, says: "Go ahead on the lines you have laid out and you will not lose me."

H. P. D., of Fresno, says: "We like the Cultivator very much and read it with much profit as well as interest."

"Enclosed please find one dollar for which send the Cultivator to my address. I consider your paper the best agricultural paper I ever read. Would not do without it." J. H. B., Corrolitos

M. S. of Summerland says: "The Cultivator is very highly valued by me. I frequently find a single article worth the price of a year's subscription."

gricultural Notes of the Pacific Coast

Iorthern California

ville expects to build a race

ta Rosa marketed last year 44,- ases of eggs.

pies are in their glory over the mento valley.

astopol Grange held an interest- neeting last Saturday.

heaviest snow in years has d the hills near Truckee.

aville will lease a sewer farm hich to waste its sewage.

tensive levee improvements are made on the Feather at Marys-

odland had the greatest grain in its history within the last

arly 40 acres of fruit trees are planted on the State Farm at s.

ass valley farmers are losing y head of cattle because of short- of feed.

ba City farmers recently held an uctive institute at the Barry olhouse.

scheme for draining large sec- s of Sutter and Butte county is g developed.

any orange trees near Colusa been fumigated by Los Angeles pany of fumigators.

ntract has been let for a refrig- or plant for the creamery build- at the State Farm.

tter and Yuba county farmers discussing an active campaign nst pear blight.

apa county supervisors have ap- priated $500 to aid in the work of nping out sheep scab.

ierce Land & Stock Company has ntly made a shipment of 32 head oughbred Holsteins to Japan.

he Sonoma County Co-operative ltrymen's Association have es- lished a wholesale egg depot at ta Rosa.

rchardists near Chico are smudg- with oil to prevent possible in- y from frosts to the blossoms of fruit trees.

he State Forestry Board visited Big Basin Reserve recently to de- mine as to the recent contention he destruction of trees.

ne farmer near Yuba City has mitted stock to die and lie ex- ed on the farm until officers com- led a change of conditions.

ut of a total of 21,000 of eggs pro- ed in the vicinity of Santa Rosa Sonoma County Co-operative ltry Association controls 16,000 es.

armers near Redding have been arded $30,000 damages for land ich is to be submerged when a m is built by the Battle Creek wer Company.

he Sacramento valley branch of e Hop Growers' Union at a recent eting at Sacramento adopted a solution calling for a decrease in e hop acreage of 30 per cent.

While the wine trust is advising owers not to plant any more apes at present, it is charged that is greatly adding to its own hold- gs along that line.

Central California

Watsonville schools observed Arbor Day.

Turlock is enjoying an occasional rabbit drive.

Kerman is proving to be quite an alfalfa center.

Salinas Valley has already planted 100,000 acres to grain.

Tulare and Visalia horticultural districts marketed 6742 tons of dried prunes last year.

Turlock cantaloupe growers will put in the largest acreage ever planted in that section.

The cannery at Sunnyvale is preparing for the heaviest pack of deciduous fruits in its history.

The schools of Palo Alto are offering prizes for the best garden work done by children in those schools.

The quarterly meeting of the California State Veterinary Medical Association was held last week at Hanford.

The Salinas Index says that the mountains in the neighborhood of Freemont's Peak show the most snow for years.

Thirty-two sheep shearers at work at Bakersfield have gone on strike, demanding more pay. The former price was 7c.

The San Jose Grange has been giving particular attention to the postal savings banks which it hopes to see established.

Dinuba, Sultana and Orosi raisin growers have formed a pool for disposing of the raisins still in the growers' hands.

The County Horticultural Commission of Tulare reports that there were grown and sold in Tulare county 37,000 citrus trees last year.

The magnificent Rancho Chico, owned by Mrs. Bidwell, has been offered to the State Board of Foresters, and will probably be accepted and converted into a reserve.

The Interstate Commerce Commission investigation has developed the fact that the California Pine Box Lumber Company was given a lower rate on its shipments of box shook than were fruit shippers.

The Watsonville Parajonian says: "The wanton destruction of the big redwood trees with the sanction of the State Forestry Commission is one of the most damnable crimes ever perpetrated on the people of this State."

The Parajo Valley has sold the greater quantity of its potato crop. The shipments in the last two weeks having been far more liberal than formerly. The visit of the fleet of warships is given as a reason for the cleaning up of the crops.

The Kearney estate is now being sued by an architect for $58,000 for services rendered in designing a great chateau which was never built. This will effect, if decided in its favor, the values of the estate, which is now devised to the State University.

Some of the fair circuit dates for the Pacific Coast are: Sacramento, August 29th to September 5th; Roseburg, Oregon, September 7 to 12; Portland, September 21 to 26; North Yakima, Washington, September 28 to October 3; Spokane, October 5 to 10.

Southern California

Coachella Valley shipped its first asparagus last week.

San Bernardino rainfall amounts to practically 14 inches.

Citrus orchardists are busy turning under green cover crops.

Hundreds of acres of grapes are being planted in Coachella valley.

A cannery at Huntington Beach is contracting for next year's tomatoes.

Coachella Valley News appeals for introduction of ramie to that section.

Seventy-five Pistachio trees are being grown at the Experiment Station near Indio.

The Imperial weather has been slightly cool for the best growth of the cantaloupe.

Imperial county will try a new variety of cantaloupe this year known as French melon.

Riverside recently experienced a mild norther which took some of the riper fruit off of the trees.

Cabbage growers the country over seem to be discouraged over the outlook of the cabbage market.

The Curtis silk farms is encouraging interest in silk culture by distributing 100,000 silk worm eggs.

Up to the first week in March the shipments of olives from Hemet amounted to 250 tons or 21 carloads.

Wild turkeys are to be released in the San Bernadrino Forest Reserve. They will be brought from Mexico.

San Jacinto Valley men have formed a corporation to erect a saw mill in the San Jacinto mountains.

Anaheim reports that the next crop of potatoes, both sweet and Irish, will be greater in that section than ever.

Farmers near Oxnard have found the last season so wet that some are considering the advisability of under drainage.

Most Southern California hay growers anticipate a bigger crop than usual and the price is exceptionally favorable.

Santa Ana poultry growers are investigating the possibilities of securing poultry feed at much lower rates in carload lots.

The Imperial Creamery is now paying $15,000 per month to farmers for cream and is making about one ton of butter per day.

Poultrymen of Santa Ana at their next annual show expect to open up with a big parade which will be worthy of a big show.

The shipment of dried chilis from Orange county is proceeding slower than usual. Up to this time shipments have been exceedingly light.

While the season has not been as favorable as last to orange growers and universally lower prices have prevailed, yet there is no discouragement with most growers.

The California Fruit Growers' Exchange recently offered prizes for the best poem regarding the healthfulness of citrus fruits, the same to be used in advertising purposes.

The East Highlands Fruit Association has a new pre-cooling plant which cost about $35,000 and is strictly up-to-date and effective. It will handle about 3½ cars of fruit per day.

The Coast

Dayton, Washington, is shipping flour to Guatemala.

Oregon potatoes are being shipped to Minneapolis markets.

Spring farm work is in full blast at LaCross, Washington.

Pueblo, Colorado, is to be the center of a great tomato growing and canning industry.

At several farmers' institutes held at Utah recently, the average attendance was over 300.

A great deal of new land is being plowed and developed near North Yakima, Washington.

The annual exhibition of the Hawaiian Poultry Association was held in January at Honolulu.

Prospects for a fine fruit crop in the orchards near Pomeroy, Washington, were never better.

The Buckeye country in Arizona is said to be the center of the honey industry of that territory.

Sixty finely bred horses were in the recent parade at the horse show at Walla Walla, Washington.

The effort to secure statistics of hop acreage in Oregon has failed and the effort has been abandoned.

North Yakima orchardists are irrigating extensively hoping to avoid injury to fruit blossoms from the frost.

Hop growers at Salem, Oregon, refuse to join the hop growers' union, as they maintain the effort will be a failure.

Milton, Oregon, stock growers are prosecuting a dealer in stock tonic because of loss to catle after feeding the tonic which it is claimed contain poison.

The brewers are endeavoring to frighten the hop growers with the statement that the present temperance agitation will destroy the hop business.

Portland potato dealers are broken up over the fact that the 7000-sack battleship order for potatoes was secured by Watsonville and Salinas growers.

Hay dealers at Tacoma, Washington, report heavy demands for hay and bran for the Alaska trade, and the market there is kept clean on that account.

The North Pacific Fair Association will arrange the coming district fairs so that the live stock breeders and other exhibitors are enabled to take in the entire circuit during the season.

The farmers' demonstration train, which recently made a trip over the O. R. & N. lines in Palouse country, was received with greatest interest, and is said to have done great good to all farmers.

Farmers near Walla Walla, Washington, are overcoming the weed pest which has been caused by weeds growing on the railroad right-of-way. The weeds are eradicated by growing wheat on this strip.

The Hazelwood Cream Company pays 1½ cents more for cream that shows less than a certain per cent. of acidity. This they call "premium" cream. The firm is endeavoring to educate producers to assist them in creating a gilt-edged article on butter.

PER
2 BUSHEL
SACK

$1.90

PER
2 BUSHEL
SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

Eggs for Hatching

From Carefully selected purebred stock of

White Minorcas **White Leghorns**
Buff Orpingtons **Aylesbury Ducks**

For full particulars and prices on eggs and incubator chicks apply to

Coulson Poultry & Stock Food Co.
Petaluma, Cal.

Beef Scraps **Raw Bone**

GUARANTEED ANALYSIS:
Protein 65%
Fat 8%

Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps. No fertilizer ingredients in these Beef Scraps.

GUARANTEED ANALYSIS:
Protein 25%
Phosphates..............45%

Made of Clean Beef Bones, surplus fat removed. Cleanest Raw Bone on the Market.

Pure, Clean Animal Matter Poultry Foods

WESTERN MEAT COMPANY 6th & Townsend Sts.,
SAN FRANCISCO CAL.

The Jubilee Incubator Co.

HAS A BIG SURPRISE FOR
THE POULTRY FRATERNITY

SUCCESS NOW ASSURED BY USING
The Jubilee

We have something new for you. Send us your name to place on list for Catalog "J" being issued.

Jubilee Incubator Co., Sunnyvale, Cal.

Profit in the Poultry Ya

We solicit short articles of a practical nature from the fancier and ut breeder, giving their experiences with poultry. All inquiries pertaining to t management, disease and its prevention will be answered through these colu

CARE OF CHICKS.

IN OUR last issue we told how to treat the setting hen, so in this we will tell how to treat your chicks from time hatched until they are six weeks old. For so much depends on the care we give our chicks for the first six weeks.

If we are raising thoroughbred stock and expect to exhibit or sell stock for exhibition purposes, we must keep them growing from shell to show room.

Whether we grow thoroughbreds or common stock for market and eggs we force them, and we cannot force them if we mistreat them.

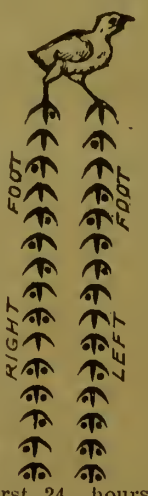
Taking Chicks from Nest.

It is not best to take chicks from nest until they are about 24 hours old. Yet it often happens that some will hatch at least 12 and often 24 hours ahead of others. So we will have to watch our hens pretty closely while hatching, as after the chicks are 12 hours old they will begin to move around and may make the hen nervous, so we should keep close watch in the day time and if the hen begins to get nervous remove chicks either to another hen or put them in a basket in a warm place, putting them back under the hen again at night.

Care should be taken in selecting a hen for mother of chicks, as all hens that set well don't make good mothers. Keep chicks as quiet as possible for first 48 hours. We never feed our chicks till 24 or 36 hours old, but always feed the hen a good feed of whole grain as soon as removed to the brood coop, for if she be hungry she will scratch around hunting for food, when she should be brooding her chicks.

Marking Chicks.

If you want to follow line breeding, as was suggested in these columns several weeks ago, or if you have special matings that you want to mark, the marking should be done when chicks are taken from nests, for they remain under hen pretty closely for first 24 hours; it gives the wound a chance to heal, thus avoiding the danger of the chicks pecking one another where punch is made. The web of foot can be punched with a small punch that can be procured from any poultry supply house.



We give a cut here showing the usual method of marking, each mark representing a different pen or mating. It is possible to make 15 different combinations in the four webs.

Feed for Chicks.

Now that we have our hatched and in coops, we shoul them proper care and feed. V ways feed a special prepared chick food. This can be pur at most feed stores and at all try supply houses, and we found it much better and cl than we can make. If any o readers cannot get a ready chick food and will write us w give a recipe for a good one.

If you can it is best to keep before them always, but it shou fed in troughs that should be so structed that the chicks c get into them with their fee fed on ground, you should feed eral times a day and in a place. After we begin to feed chicks we never allow them t hungry.

Provide Water.

The chicks should always plenty of good, cool water b them. Never allow the drin fountain to stand in the sun. careful to have drinking vessels chicks can't get into them for they get wet and chilled they more subject to disease.

Keep Chicks Free from Lice.

If you have looked after your properly during incubation, you not have to look for lice for the few days. Head lice are one of first things to bother. The most fective remedy for head lice is to a little lard on head at night. T give them a good dusting wit good lice powder or insect pow If you give them one or two g dustings the first four weeks you have no trouble from lice.

Give green food, lawn clippi lettuce or rape. Don't allow hen drag them around through the grass. Provide shade and she from noon day sun and you will h healthy, strong chicks and will surprised at the rapid growth t will make.

* * *

AROUND THE YARD.

Treat the chicks kindly.

* * *

Wash out the drinking fountai

* * *

Whitewash your coops and them clean.

* * *

It doesn't pay to raise chicks cats and rats.

* * *

Don't scare the mother hen or will have wild chicks.

* * *

Don't raise lice and chicks in s coop, there is not room for botl

* * *

Spade up the runs and give little fellows something to scratching for bugs.

* * *

Always keep your coops in a d place. If your soil is heavy, bet have a board floor in coops.

* * *

Chicks in Brooder.

Please tell me how long chick should be left in the brood Should they always have heat? would like some ideas on it.—Mrs D. P.

Usually chicks should be kept brooder about four weeks, with he

One Louse

A louse is small, but in the
rong place it makes trouble.
eep them out of the hennery or
ere is misery in store for the
ens and small profit for you.

Instant
Louse Killer

uts a speedy end to the louse
est. A thorough dusting of
osts, nests, hidden corners
d cracks destroys them
tterly. If you suspect lice,
y it before they become a
lague. Instant Louse Killer
the formula of Dr. Hess
M. D., D. V. S.) and kills lice
n stock, ticks on sheep, rose
ugs, cabbage worms and bugs
n cucumber, squash and melon
ines. It is also a reliable dis-
nfectant and deodorizer.
omes in shaker-top cans.

Sold on a Written Guarantee.

1 lb. 35c; 3 lbs. 85c.

If your dealer cannot supply
ou, send your order to us.

MANUFACTURED BY
r. HESS & CLARK
Ashland, Ohio.
E PETALUMA INCUBATOR CO., PETALUMA, CAL.
Pacific Coast Distributers.

. White Leghorns
The Kind
That Pays

y breeding birds I each year select
ber of my handsomest, earliest de-
g pullets and trap nest them dur-
eir entire first laying year. The
season from these I select only
having satisfactory laying records.
breeding pens are only hens of
worth in their second and third
, and no bird that has ever shown
ce of disease. Each pen mated
hens to one handsome cock. I be-
there is not in California a hand-
or better lot of birds and few as
Can furnish eggs for hatching
these birds at $1.50 for 15, $7.50 per
$60 per 1000. Let me book your
now.
spondence solicited.

S. E. Gregg
o. Adams St. Riverside, Cal.

Imported
lesbury Ducks

nners at Crystal Palace and
leading shows in England.
o at the State Fair, San Jose
and Oakland, 1906.
o State Fair and San Jose, 1907.
ck for sale and Eggs in season.

incent G. Huntley
Petaluma, California
Breeder of Buff and Black Orpingtons
and Barred Plymouth Rocks.

aldwin's White Leghorns
st prizes San Jose '06, and State Fair '07
Three 1sts and special, San Jose, '07.
1sts, three 2nds and $50 Cup best display
Petaluma '07.
nd for free '08 Catalogue and price list.
Frank E. Baldwin
ashington Ave. - San Jose, Cal.

HOMERS
Prolific Breeders
Winner of 1st pen at Breeders' Show
Satisfaction Guaranteed
C. E. Bunker
San Jacinto, Cal.

hite Wyandottes Exclusively
White, Typical Birds. Stock and Eggs For Sale.
W. A. SEYMOUR
o. Beaudry Ave. Los Angeles Cal.

for first three weeks. The heat, of course, will depend on the weather somewhat; it may be necessary to keep up heat for four weeks or longer, or again you may find in two weeks your chicks will not require heat. At four weeks of age your chicks can be put in cold brooder or brood coop, which is nothing more than a box, for protection.

* * *

Possible Injury.

Will you kindly tell me what is the cause and cure for the following conditions of a few of my hens—White Leghorns: They first drop their bodies closer to the ground than normal; their bodies become enlarged and they walk more like a duck than a hen. When first symptoms appear they eat ravenously. One I killed; had in her body a sack of watery substance almost clear in color, of about a pint in quantity. They have wheat and cut grass morning and evening with a mash of bran and milk, and kitchen scraps at midday, with grit and shell and water before them all the time.—Subscriber.

I think your hens have broken eggs in them. This may be caused by birds getting a fall, while trying to get on or off of roost. Sometimes when the male bird is extra vigorous the hens will try and fly away from him thus increasing the danger of a fall. Try as far as possible to remove the cause. For afflicted birds inject a little sweet oil in vent and help the hen pass the egg.

* * *

Canker.

For the past two years have used, very successfully, for roup, a cure given in your columns by a former editor, and for canker sore mouth found a wash of alum water or tincture of iron mixed with oil very effective. But lately the above remedies have failed to give the desired results, and am losing some of my hens. Perhaps I have not diagnosed the present disease correctly. One eye is watery, and if I do not succeed in getting it cured at once the eye will swell and fill with the cheesy substance; the mouth has yellow sores in it and the throat fills with phlegm. In some cases there is an eruption, in appearance like scabs, on the comb or gills or eyelids, the latter, I thought, might be chicken pox and have bathed the sores with vitrol water. In all cases where the phlegm appears, have failed to effect a cure and in a few days they die.—J. L.

Your chickens have canker and chicken pox. Canker in throat and windpipe is hard to cure, and especially so when accompanied with chicken pox.

Our advice is to clean up your houses and yards. Disinfect well and whitewash houses. Get some reliable roup and canker cure and treat according to directions. It will take hard and constant work to stamp out the disease.

* * *

Fleas.

I have a fine lot of White Leghorn chickens; some of them will scratch their heads till blind, others will begin to sneeze, then gap; both will linger several days and die. Please tell me the cause and what should be done for them. They also get dark spots on their combs.—A. M., Reedley.

* * *

I think if you will look closely you will find that your birds have fleas. I have seen the heads and combs of birds covered until they looked like dried blood. Make an examination and if this is the case, anoint head well with vaseline or lard. This will kill all that it comes in contact with. After you have treated birds, clean up yards and houses; spray runs, houses, etc., with four parts distillate too one part liquid lice killer.

Feed the Chicks and Kill the Gophers

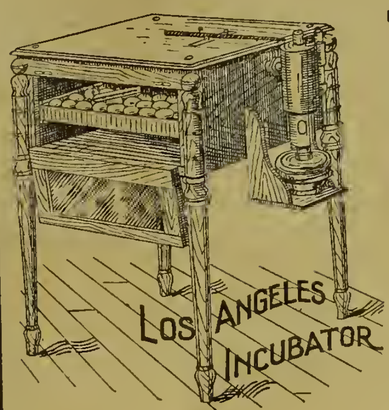
West Coast Chick Feed

A full, rightly balanced ration for the little ones, to be fed dry. All pure feed, no filler, no waste. The biggest seller because the best made. Keeps them growing and healthy. For sale by many dealers; if not by yours send direct to us.

Bille's Gopher Poison

is most attractive to gophers, squirrels, etc., but sure death. Endorsed by Agricultural Colleges and Experiment Stations. Has had the greatest success for years in the Middle West, and also here in California last season. Circular with many testimonials and Affidavit of 201 killed in one day. If your dealer hasn't it, send $2.50 for two bottles, (not less than two) express prepaid by us. Money refunded if not as represented—so printed on the bottle.

WEST COAST MILL
818-826 San Fernando St. (Through to Alameda) Los Angeles, Cal.



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ABOUT HATCHING
WHEN YOU BUY A
Los Angeles
Incubator
THEY ARE GUARANTEED
OPAL INCUBATOR OIL
5 GAL. $1.50
10 GAL. 2.90
GET OUR FREE CATALOGUE
Henry Albers Co., 534 So. Main, Los Angeles

5,000 MEN OUT OF WORK

Can feed a few hens on the scraps from the table and have eggs for the family every day in the year—but

Little Chicks should be fed on Excelsior Chick Food

prepared from clean, sound grains, seeds, beef scraps and charcoal in proportions to make a well balanced ration and produce strong, healthy chicks and keep them continually growing. For sale by all dealers and grocers. Take no other.

Excelsior Cereal Milling Company
242 Central Ave., Los Angeles

CROLEY'S *Meat Scraps*
Meat Scraps
No Hair $3.00 per Sack *No Hoofs*
Geo. H. Croley - Petaluma, Cal.
Croley's Green Bone, $2.50 per Sack

Starbuck's Barred Plymouth Rocks
We trap nest our hens. Why set from poor layers? Bird laying qualities are inherited the same as any other. This year we have discarded all old matings and have gone to the next generation. Cocks have 9 generations of 200 egg mothers. Hens all from 200 egg mothers and from cock with 6 generations of 200 egg mothers, and are layingfine. We have divided into pens according to the way they are showing up in six months laying. $2.50 for 13 eggs from first pen. $1.00 from 2nd. until they have time to make longer records. (Except from our one best, not for sale. We claim the world's Barred Rock, 6 months laying record for this one.) Do you wish to hear about our prize winning Buff Orpingtons and Silver Wyandottes? We have something to crow about. No Sunday sales or visitors. *Wm. Starbuck & Son. Fullerton*

White Wyandottes Exclusively
Our strain have won in strong competition on the Pacific Coast
Day old Chicks, Incubator lots our Specialty, $15 per 100
Booking must be made in advance. *Stock and Eggs For Sale.* Send for our new Catalogue
GEORGE W GRACE & SON. RURAL 21 CAPITOL AVE. BOX 98, SAN JOSE, CAL.

WHITE AND BUFF WYANDOTTES
And Golden Sebright Bantams, prize winners
Stock and Eggs in season
M. E. Dillingham, Box 67 San Gabriel, Cal

S. C. Rhode Island Reds True Red Yards
Four pens, headed by Red Ranger, Red Flame, Red Scout, Red Cloud. Eastern winners. Eggs, standard utility, $1.50; select fancy. $2 for 13: utility stock. $2. A. B. WHITE, DOLGEVILLE, CAL.

A New Deal
ON
Sure Hatch Incubators
For Pacific Coast Trade
Lower Prices!

Every Incubator Buyer Should Investigate

We have discontinued our Los Angeles selling agency and are selling direct to the user from the factory. We have a few machines at **Los Angeles** and a fine stock at **Salt Lake City.** Don't buy until you get our Free Catalog and New Prices. **Quick action is absolutely necessary,** as these machines at bargain prices will be snapped up in a hurry. Write immediately to

Sure Hatch Incubator Company
Box 150, Fremont, Neb.

Free Book and Bargain Price Certificate
SURE HATCH INCUBATOR CO.,
Box 150, Fremont, Neb.
Please send Free Book and Bargain Price Offer.

Name ______________________

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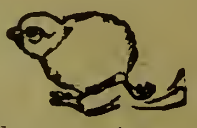


BABY CHICKS

Buy Day Old Thoroughbred Chicks

The easiest and quickest way to get a start in the poultry business. You can get just the number you desire and at the time you are ready. No delay waiting for the hen or incubator to hatch and no uncertainty as to the number of eggs that will hatch—for mishaps will often occur that spoil your hatch even when almost ready to come off.

When you buy Baby Chicks, you select your breed, order the number you can care for, heat your Brooder, and you are right in the chicken business with both feet. Of course, it goes without saying that your Brooder must be constructed along correct lines—for upon the evenness of your Brooder's heat greatly depends the result. Brooders poorly made where the chicks have a tendency to "pile up" in order to keep near the proper temperature, cannot raise a full percentage of chicks, no matter how carefully hatched or how strong they may be. If your Brooder is right, you should raise 95 per cent of all chicks you start with.

We guarantee every chick we sell to be a thoroughbred, to be healthy, from a well-established strain, and we do not allow a cripple to go out.

We make a specialty of shipments to distant points. They can be sent safely up to 1000 miles and rarely do any die on the journey.

Our prices are $15.00 per 100 on all standard breeds, except White Leghorns, which are $10.00 per 100. We can sell in smaller numbers if you wish.

One order placed with us will prove to you that we "deliver the goods."

We sell Incubators, Brooders, Choice Seed and Poultry Supplies.

F. Gilman Taylor Seed Co.
803 South Main Street Los Angeles, Califoania

Ranch Mirasol (Lincoln Avenue Poultry Yards)

S. C. White Leghorns--Mitchell Strain

Eggs for Hatching

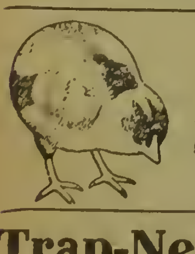
Our birds are not the culls and accidents of the fancy breeder, but have been bred for generations for a definite utility type to lay both quality and quantity. They are selected by the Hogan system and mated by Standard requirements. Ready for delivery January 1st. Order books now open.

Carl C. Curtis, Owner, Lincoln Avenue and Ventura St. **Pasadena, Cal.**
ALTADENA CARS

The Inglewood Poultry Colony

Is the very best location for YOU if you are in the poultry business. Because you can make MORE MONEY out of poultry there than you can anywhere else in Southern California. Apply for particulars to

Inglewood Water Co., 349 Wilcox Bldg. Los Angeles



Doke Chick Feed is The Pioneer Chick Feed

A Balanced ration made of pure grains (cracked), Seeds, Beef Scrap Charcoal. No grit no waste or bowel trouble in feeding this feed. Will send freight prepaid to any address for $3.50 per 100 lbs. Arizona points 50c extra.

Pioneer Hatchery 711 South Main Los Angeles, Cal,

Trap-Nested White Wyandottes

That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribons, all at Los Angeles County Poultry Ass'n Show, Dec. 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah.

Mission View Poultry Ranch Mrs. C. D. Hubbard **San Fernando, Cal.**

A GREAT RECORD.

I note your request for report of egg records, and I take pleasure in inclosing you herewith a true record of a breeding pen of one drake and five ducks of the Mammoth Pekin variety.

One of these ducks on the 21st of December, 1907, laid three eggs, and by referring to the record you will notice that she has repeatedly laid two eggs in one day, the extra eggs being, however, soft-shelled.

By averaging the shortage, I find that the first duck to lay has up to date, when she is about 9½ months old, laid 135 eggs, and the rest are all following her at the same rate. The five ducks are all we have on the ranch, and we can make affidavit to the correctness of this record.

If any one can beat this record, I will be pleased to learn their address, as I will pay a good round price for a drake of the right kind.

I have young ducks hatched from this pen that weigh three pounds each at six weeks old.

We have no eggs or stock for sale at this time, as I am hatching every hatchable egg, and when we are ready to do business, will give due notice through the advertising columns of the Cultivator.—A. B. Shaub, Bell.

Mr. Shaw gives an itemized account of the production day by day from September 30 to February 18, when the letter was sent. The total monthly record was: September, 1; October, 65; November, 86; December, 104; January, 153; February (17 days) 83, or a total of 492 eggs. Three of the ducks were hatched May 1, and two of them July 1.

PRACTICAL POULTRY FEEDING.

There is hardly a question that comes to the attention of the poultry man at this season that is of greater importance than feeding. However, we will not attempt this month to present a lengthy article on any one particular branch of feeding, nor set down hard and fast rules for feeding the fowls, but simply mention a few items touching various lines of the subject.

Wheat and oats are the best grains for producing bone and muscle and vigorous growth. To these add corn to the evening meal as the weather gets colder.

While wet, sloppy food may not sour at this season, it is not a good condition in which to give food to the fowls. If mash must be fed, feed it in a crumbly state, or better still, perfectly dry, from self-feeding hoppers or protected feed troughs.

Separate the grown and growing stock and fed them according to their condition and needs. Old stock will get too fat on a ration that is absolutely necessary for the proper development of growing fowls. Feed separately and there will be much less trouble with over-fatness in grown stock and improper development in growing stock.

Feed regularly as there is nothing that makes the fowls discontented, and hence unprofitable, more quickly and certainly than dilatory methods in feeding.

Fresh green cut bone is one of the very best and cheapest substitutes for the natural animal food the fowls get on the range. The health and vigor of the flock can be materially improved and the profits increased by judiciously feeding green cut bone.

In feeding green cut bone do not go on the theory that if "a little good more is better," as it is v rich and overfeeding of it has a t dency to bowel trouble. Use care a common sense; start with feedin small amount and increase grad as the fowls become accustomed t About one-fourth of an ounce bird per day for pullets or o stock is sufficient to commence w and this may be increased to a ounce each day per bird.

Condiments, such as red pe mustard, etc., should be fed great moderation, if at all. stimulate for a time, act on the gestive and egg organs as a wh a horse, but in time unfit the f for breeding or layers.

Wheat bran should be kept wi reach of fowls at all times. F it in hoppers or shallow boxes, troughs; if the latter, tack l across the top of the box or tro a short distance apart so that t fowls can get at the bran but scratch it out and waste it. Br aids in keeping the digestive org in healthy condition and also acts a stimulant on the egg producing o gans. The fowls will consume la quantities of it, and there is li danger of their eating too much.

Milk, either sweet or sour, is ex lent for fowls and especially at th time when the pullets are near the laying period and animal food o the range is scarce, if the fowls have been fortunate enough to have range It may be fed clear in troughs or in vessels provided for the purpose, or it may be used to moisten the mash. It makes the mash more palatable and the fowls eat it much more readily. However, it increases the danger of overfeeding, as poultry, like some people, eat because food tastes good and do not stop with only what nature demands.

It takes practically the same amount of feed to mature "any old kind of a chicken" as it does to mature a pure bred one worth many times its value. It is, therefore, economy to put the feed into pure bred stock.

Do not feed musty grains and then wonder why the poultry is not thrifty. Musty grain cannot produce healthy meat.

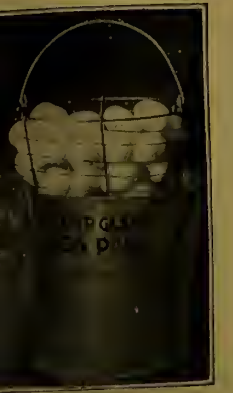
Lay in a supply of green food if it has not already been done. Cabbage, beet, carrots, turnips and onions are all good and the small unsalable ones will answer if others are not ob tainable, or for various reasons i is not economy to feed them. Be in mind in this connection that i winter feeding for good results gree food is very necessary. If summer results are to be expected summer conditions must be provided in so fa as possible.

Feed as great a variety as is pos ble as this has much to do with the health of the fowls. Fowls are often unthrifty simply for lack of variety. They tire of a sameness the same as human beings.

The commerical oyster and clam shell which is often sold on the ma ket as grit are good for shell-forming material, and in a measure acts as grit, but they do not take the place of the hard, sharp grits that are manufactured for the purpose. Sharp grit is as essential as wholesome food. Lack of grit often causes digestive disorders.

Don't form the impression that corn is not good for fowls. It is a good egg producer and during the winter a full feed can safely be fed each evening.

Famed Water Glass for Egg Pre-serving



Water glass for this purpose must be pure in quality and the correct density. This glass has been specially imported for this purpose and we guarantee results.

ins wi'l preserve 150 eggs and dollar tins
s. Full part!culars post free.
l egg preserving buckets with wire cage,
Larger sizes, prices on application.

ger Water Glass Department
07 So. Spring St., Los Angeles

k Minorcas
Exclusively
That Lay and Win"

ngs at Los Angeles, ocks, 1, 2, 4, 5; Cock- 2, 4, 5: Hens, 1, 2, 3, 5; 1, 2. 3, 4, 5. Pens, 1, 2; highest scoring Minor- in show. Stock and sale. Catalogue free.
eeler, Box 123, Lordsburg

seed meal is rich in oil, and, ore, valuable in getting that gloss in the plumage so desir- n many varieties. It would be expensive for a general feed, an be mixed with the soft food with profit in preparing birds e show room. Sunflower seed valuable for the same purpose. ullets are well matured there is rm done in getting them to early in the season, and this e done by generous feeding of wholesome food and plenty of ullets are not easily made too d very often pullets that do not hen conditions generally appear able. are not fed sufficient food. my in feeding is a good thing, when practiced to the extent of ving the fowls of the food nec- to produce eggs, it ceases to onomy. Pullets must be fed ously if eggs are expected from —L. B. Gardner in Successful ry Journal.

FECTED POULTRY OF AMERICA.

book which will be of great to poultry fanciers, has just issued from the press of the ard Publishing Co., of Washing- D. C. It is "Perfected Poultry merica," a concise, illustrated ise of the recognized breeds of ry, turkeys and water fowl.

is written by T. F. McGrew and E. Howard, and is illustrated oul P. Graham.

is not exactly a standard but is etailed description with il- ations in detail, which enables novice to form a correct idea of form and feather of any breed. e illustrations are superb. Re- ing them the "Foreword" says: he illustrated portions of this are unusually interesting, and presented with a great deal of faction. The artist has per- ed his work well, and his models been the best to be found. No mpt has been made to idealize specimen, but rather to give vings that would be recognized appreciated for the types of ls to be seen in the average ding yards or show rooms of the try. These drawings probably be criticized in some minor de- s, yet, as a whole, we are satis- they will be regarded as typical imens of the American breeder's cy, and will be given credit as being a truthful portrayal of breed types. As a reference book, it should prove of untold value to every breeder and fancier, and by following its pages the chances of success in breeding and mating should be enchanced for the expert as well as the novice."

The Cultivator can supply the book to those who wish it. See shop talk on Editorial page.

HOW AND WHAT TO FEED,

For ten hens, one quart of grain is sufficient for a day's ration. Especially for the smaller breeds.

However, Brahmas or Cochins, if they do not have access to green food, will require about one quart to five hens during the laying season.

All fowls relish a cooked breakfast or dinner, potatoes, turnips, carrots, cabbage or anything in the way of scraps from the table. Equal parts of corn and oats ground together, and middlings boiled or steamed, if served while warm, makes a good breakfast for laying hens. Another good food for the morning ration is corn chop, ten pounds; barley chop, ten pounds; middlings, five pounds, and bran, five pounds. Mix all together, then scald with just enough boiling water to make a thick mash; add sufficient water and milk, so that it can be readily eaten by the fowls.

For an evening food we usually give whole grain, either wheat or oats. Corn is not good food in summer, as it does not contain the required ingredients to produce an abundant supply of eggs, and is productive of too much heat. Never feed corn during the laying season, except that part contained in the soft mash, which is given to the fowls in the morning. Another important factor in egg production is green food. In order to have fowls do best, they must be supplied with yards large enough to furnish an abundant supply of grass.

AMERICAN BUFF WYANDOTTE CLUB.

The American Buff Wyandotte Club has a very instructive catalogue on this exceptionally prolific winter egg laying breed, and anyone wishing to become better acquainted with their merits, kindly address O. S. Hofmann (State vice-president) or Henry R. Ingalls (National secretary,) Greenville, N. Y., for one of these catalogues.

BLACK AND WHITE POULTRY YARDS.

Bloem and Vandergoot, proprietors, of the Black and White Yards, are Ed. M. Burnell's successors. This firm recently purchased Mr. Burnell's entire stock of Columbia Wyandottes, including his prize winners, good will and equipment. This gives Messrs. Bloem and Vandergoot the best flock of Columbians on the Coast and we are glad to see the flock in good hands. The ranch is situated about one mile east of Glendora, and is well located for poultry. Any of our readers wishing either stock or eggs will do well to correspond with the above firm.

The infidel argys just az a bull duz chained to a post; he bellows and paws, but he doesn't git loose from the post I notiss.—Billings.

"What! marry my daughter, sir?" cried the rich old man; "why she's my only child." The young man smiled. "Oh, that's all right," he said, undaunted; "you see, sir, one was all I wanted."—"Tit-Bits."

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Live Stock and Dair

MILK FEVER.

BY ERROR the article by Mrs. Sherman was left incomplete by the leaving off of the last few paragraphs. In the former article the fear of the disease which formerly existed, a description of the disease, the discovery of remedies and the trials made which have proved the effectiveness of the comparatively recent discovery, were given. The following is the remainder of the article.

Milk Fever Outfit.

This is simple enough; it consists of a silver milking tube to insert into the teat and a rubber tube connected with a hand bulb, the other end of the tube is in a jar covered over the top with cotton batting to strain the air. The quarters are pumped full of air in each quarter and the cow is left in peace. The affect is a little short of a marvel, a cow lying unconscious is treated and in a few short hours she is up and well as ever. No reoccurance need be feared for the owner has become wiser and will not allow the causes that produces the effects. The air pumping outfit should be in every dairyman's hands, as it is a valuable aid in treating inflammed or congested udders. The quarters are pumped full of air and after the milk has been drawn the glands expanded to their fullest are kept soft and open. The air entering often crackles as it penetrates the parts.

Book Dairyman.

The cure for milk fever is one of the triumphs of the scientific farmer. Another was the discovery of the tick as the spreader of Texas fever. The control of Black leg by vacination followed. Now lumpy jaw is coming to have a cure. Tubercolosis is the last and greatest to be dreaded of cattle diseases. It has been given an undue prominence by the effort to scare the lairymen into better ways. The result is that the dairyman is claiming a higher price for his proructs than ever before. This is right—for if he has made mistakes he has had to pay dearly for them. The money he bougth his cows with, was often all he had and it was a sad lose to him when the sows proved to be diseased. He had no way of knowing better. Do you realize how very few years ago a beef carcas was shown at a Massachusetts fair as a curious freak that was merely a case of could tell the name of the trouble. It was called "Pearl Disease."—M. E. Sherman.

MILKING MACHINES.

In a report issued by the Connecticut Experiment Station we note the following in regard to effect on quality of milk when the milking machine is used:

In nine experiments the milking machine was treated in different ways and the bacterial content of the machine-drawn milk was compared with that of hand-drawn milk.

In the first experiment the machine was at night simply rinsed by pumping warm water through it and after use in the morning taken apart, scrubbed with hot water and washing powder, and rinsed with clean water. The pails were sterilized by steam. The bacterial content of the machine-drawn milk averaged 15,524 per cubic centimeter and of the hand-drawn milk 3144.

The machine was next treate in the first experiment, but in tion the rubber tubes and teat were kept from morning until ing in a 1:300 solution of a w powder. The bacterial conten the machine-drawn milk aver 43,122 per cubic centimeter and the hand-drawn milk 18,729.

In the third experiment the and cups were kept in a 2.5 per solution of formalin between ings, other conditions being same as in the previous experime The tubes were made practic sterile by this treatment and rubber was not injured. The covered teat cups, however, somewhat corroded. The aver bacterial content of machine-dr and hand-drawn milk was re tively 20,225 and 23,329 bacteria cubic centimeter.

In the fourth experiment all p of the machine were sterilized steam. This was found very i rious to the rubber. The ave bacterial content of the mach drawn and hand-drawn milk respectively 19,984 and 18,172 teria per cubic centimeter.

In the fifth and following exp ments a new style of connector used, which admitted air into teat cups to relieve suction. T tubes and cups were kept in a 10 cent salt solution between milkin This treatment did not render t tubes sterile, and the brine its was found to increase in germ co tent from day to day. The machin drawn milk contained on an av age 12,962 bacteria per cubic cen meter and the hand-drawn milk 1 306.

The tubes and cups were next ke in a borax solution made by dissol ing one pound of borax in 15 quart of water. This did not sterilize appartaus. The machine-drawn milk contained 17,817 bacteria pe cubic centimeter and the hand drawn milk 8767.

In the seventh experiment th authors returned to the form treatment, using 3.5 per cent, still the machine-drawn milk con tained more bacteria than the han drawn milk, the averages being spectively, 7857 and 6355 bacteria cubic centimeter.

The formalin treatment was tinued in the next experiment, the air taken into the teat cups w filtered through absorbent cott This reduced the bacteria in the chine-drawn milk to 1578 per c centimeter, while the average n ber in the hand-drawn milk w 4560. In a second series in whi the cotton filters were omitt the average bacterial content of the cine-drawn milk was 11,521, and the hand-drawn milk 7467.

In the final experiment lime w was used in the place of the forma solution. The bacterial content the machine-drawn milk was 55, 67 and of the hand-drawn milk 5908.

The formalin treatment was, therefore, the only one tried which was efficient in sterilizing the apparatus and at the same time was not injurious to the rubber.

In most cases the machine-drawn milk, notwithstanding the bacterial content, was frequently higher, kept sweet longer than the milk drawn by hand..

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wish to call your attention to the fact t we have a large stock of Wood Sole ts and Shoes of the very best quality. Uppers are made of the very best lity Milwaukee Oil Grain. The Soles well-shaped, and are an exact and fortable fit, and our ***Patented stening*** makes this a ***Waterproof*** e. We all know wood is a non-con-tor, consequently it is much drier and reat deal ***warmer*** in Winter. They lighter than Rubber or Leather Shoes Boots. Shoes, $2.00; Boots, $3.25.

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  Though strange the fact may seem,
The fluid that he sells is pure
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You wonder how he does it,
  And I will tell you how:
He has no "laboratory." He
  Just gets it from the cow.

When you put out your ticket
  You're not afraid you'll get
A lot of chalk and water that
  Will fill you with regret;
  No! You are sure of richness,
  Because I tell you now
He has no "laboratory." He
Just gets it from the cow.

I don't know why he does it;
  It seems a foolish thing
To be so honest nowadays,
  When boodle reigns as king;
Yet he goes on his journey
  With calm, unclouded brow;
He has no "laboratory." He
  Just gets it from the cow.

TREATMENT AFTER ABORTION.

A subscriber writes to ask what treatment should be given a cow after abortion.

Dr. R. A. Craig pronounces this a germ disease which should be treated progressively until the disease is mastered. The stall where the cow stands should be disinfected with a spray of tar disinfectant, or five per cent carbolic acid compound. The manger should be sprayed and the stall afterward treated to a coat of whitewash. The cow should be removed from the herd and treated for three weeks, at least.

Dr. Craig then prescribes this treatment in the Jersey Bulletin:

"After the cow aborts, the womb and maternal passages leading to it should be irrigated daily with a one per cent water. solution of a tar disinfectant for at least two weeks. After the discharge from the vulva disappears and the parts appear normal, the cow may be bred. This usually takes from two to three months.

"The bull should be treated before and after each service. The long hair in the region of the opening into the sheath should be cut away, that the part may be easily cleaned. The treatment consists in washing the hair in the region with a disinfectant, and cleansing the sheath by injecting the disinfectant into it with a syringe."

LOCO.

Regarding ridding pastures of "Loco" weed, we note the following in a bulletin of the Montana Experiment Station:

During the season of 1901 Dr. Tudor lost about 300 out of a herd of 2000 lambs. Acting upon the advice from this station the next spring, 1902, he employed two men for about a month in May and June to dig up the loco plants on an area of about four miles square. The plants were cut off just below the crown, the point where the leaves arise from the root, two or three inches below the surface, a narrow, heavy hoe being used, and when this was properly done the plants never started again nor have new plants come up the present season, 1903.

It is hardly possible to completely exterminate the plants in one year's digging, as some plants will be unavoidably missed while others may spring from seed previously scattered, so that several diggings may be necessary. Loco should always be dug during May and June when in blossom.

Imperial valley was visited by 200 of Los Angeles' foremost business men last week.

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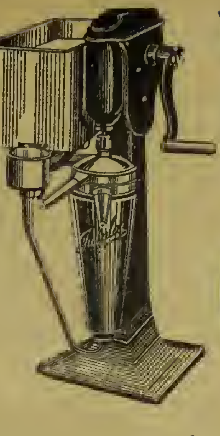

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We guarantee Tubular Separator No............... against defects in either material or workmanship, and agree to replace, **free of charge**, any part or parts of same which may have become unfit for service because of original defects, **providing the damaged parts are returned to our factory.** The term of this guarantee is unlimited and our agreement will be fulfilled any time. Repairs necessitated by ordinary wear and tear, accidents, abuse, etc., are not included in this warranty.

The Sharples Separator Co.
West Chester, Pa.

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Machine	No. 9 Tubular
Rated capacity per hour	900 pounds
Hours in operation	2,600
Pounds separated	2,340,000
Revolutions of crank	6,837,480
Revolutions of bowl	2,496,000,000
Oil used	6½ quarts
Time oiling	About 8 minutes
Time adjusting	10 minutes
Repairs	75 cents

At the end of the twenty-fourth week we made a very careful examination of this Tubular. We found that two of the nine balls in the frictionless bearing supporting the bowl were beginning to wear unevenly. To preserve perfect balance we replaced the nine old balls in this bearing with nine new ones. After making this small repair the machine ran 28 weeks longer and finished a full year without needing further repairs or adjustment. The exchange of balls costing only 75 cents and ten minutes work, yet made the machine as good as new.

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Don't you think both are conditions of value to dairymen, and of pride for the Tubular manufacturers?

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Write for Catalogue No. 260. Let us tell you about cream separating and what the Tubular can earn—save—for you in your home dairy. No cost to you to get information—and if you have a good herd and no Tubular we can tell you how to get more profit from your cows than you get now.

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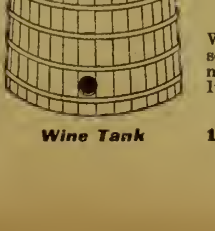

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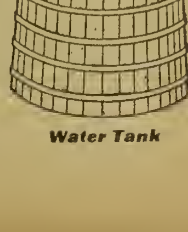
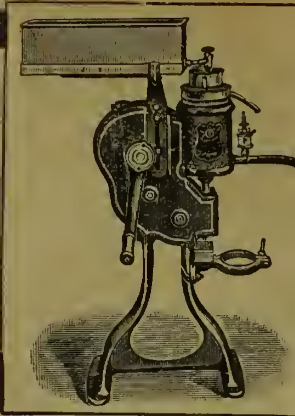


Water Tank



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continue to keep the
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Remember: The separator which gets just a little more cream from the milk each day soon pays for the difference between the best and the "cheaper" article.

Remember: The separator which lasts practically a lifetime, doing good work every day, is a better investment than the cheap machine constantly needing repairs and worn out in a few years.

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Mehring's Foot Power Cow Milker
which have done successful work for six years in New York and two years on this coast, and, in fact, are doing practically the same work as some "power" machines costing six or seven times as much.
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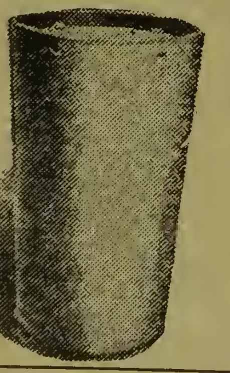

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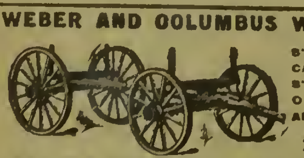

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The construction of the great Owens River aqueduct is giving impetus to garden and small farming operations along the line to supply truck to the army of workmen in the Antelope valley.

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Be your own horse doctor. Book enables you to cure all the common ailments, curb, splint, spavin, lameness, etc. Prepared by the makers of
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The world's greatest horse remedy. $100 reward for failure to cure above diseases where cure is possible. Write for the book. Postage 2c.
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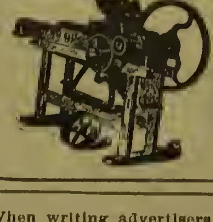
Beware of all blisters; only temporary relief, if any.



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TWO MILLION SHEEP TO BE DIPPED.

With a view to staming out sheep scabies, Charles Keane, State Veterinarian, with seventy-five assistants, will, under a proclamation that will be shortly issued by Gov. Gillett, require every sheep in the State to be dipped two times between March 1 and June 1 next.

It is estimated that there are 2,000,000 sheep in Caliornia, and to do the work thoroughly, the State Veterinarian will call upon the County Boards of Supervisors for co-operation, and has already been assured assistance from the Bureau of Animal Industry of the United States Agricultural Department at Washington.

Between thirty and forty men will be furnished by the department for the work.

KANSAS—HOG PARADISE.

The following by F. D. Coburn, secretary of the Kansas Department of Agriculture, may be true of Kansas now, but wait till California fully appreciates the hog and its possibilities of producing it, and perhaps the market may demand "California" on the rind.

It was well said by a former cabinet minister that in the American hog we have an automatic, combined machine for reducing bulk in corn and enhancing its value. That he is a mint, and the corn of our common country the bullion he transfers into golden coin.

In Kansas he finds the favored zone—his El Dorado—and here he always makes both ends meat, for Kansas is a corn orchard parked with grasses and fragrant with the bloom of alfalfa, the greatest forage plant vouchsafed by Providence to men; growing here in a profusion elsewhere unknown. Hence it is that Kansas possesses more of these latest model, self-lubricating mortgage-removers than all New England and fifteen other States and Territories added.

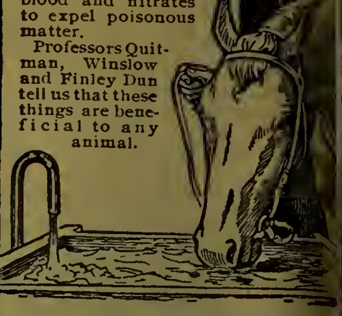
Uncle Sam, our foremost connoisseur of pork, but with no especial partiality for Kansas, recorded in a report for January of this year 1907, that the Kansas hogs are worth "Per Capiter" 15 per cent more than the Missouri hog; 36 per cent more than the Kentucky hog; 56 per cent more than his Virginia compatriot; 97 per cent more than the Arkansas hog, and 148 per cent more than Florida's favorites.

There is probably no other territory of the same area as Kansas where the conditions of climate, soil, food and care are more congenial to the hog's health and wholesome development, and he is nowhere found so developed except among and by a high order of people. High-class swine are unknown and impossible among a low-class people.

Kansas swine, coinage of Kansas grass, grain and brain, in the world-arena at Chicago and then at St. Louis met the world-beaters and beat them. She has given Poland, China, Chester county, Berkshire and New Jersey a thousand years the lead and easily distanced the namesakes of all.

The Kansas hog, in his sphere typifying the good, the true and the beautiful, is a joy even to the Hebrew, and like the State that lends him as a solace to humanity, is in but the morning of his career. His one passport, everywhere demanded and always sufficient for entree to presidents, potentates or peasants is "Kansas" on the rind.

PILES CURED IN 6 TO 14 DAYS
PAZO OINTMENT is guaranteed to cure any case of Itching, Blind, Bleeding or Protruding Piles in 6 to 14 days or money refunded 50c



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Proper management of farm te
requires good sense on the part of
owner. An ignorant farm hand ea
ruins the best horse by unwise feed
and mismanagement. Best results
obtained by keeping the system of
horse healthy and active, especially
the digestive organs. Owners who make daily use of Dr. Hess Stock Food have serviceable, active and handsome horses. It is a tonic which acts directly upon the digestion, contains iron for the blood and nitrates to expel poisonous matter.
Professors Quitman, Winslow and Finley Dun tell us that these things are beneficial to any animal.

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contains such elements. It helps gro
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and gives good condition to all
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100 lbs. $7.00 25 lb. pail $2
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Where Dr. Hess Stock food differs in p
lar is in the dose—it's small and fed but tw
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AT 10 O'CLOCK A. M., SHARP, C
SISTING OF ABOUT
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now milking, Jerseys, Holsteins and
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Consisting of 6 head fine work and
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67 Hogs, Pigs and Brood Sow
Blacksmith's Outfit Complet
IMPLEMENTS
8 sets double and single harness,
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for Corona. Salt Lake trains le
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The fine ranch on which the
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ates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our assified columns are the clearing house for the readers of the Cultivator. Here ou can insert an ad for the small sum of 1½ cents per word per issue, and be re that it will be read by thousands.

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SEEDLING AND GRAFTED WAL- fruit, ornamental trees, palms, roses. ifty, well grown stock. A. R. MAR- L, nurseryman, sales yard cor. Third fain streets. Santa Ana, Cal.

ED ORANGE TREES, VALENCIA navel 2-year-old buds. clean and thrifty Address F. E. CHAPMAN, R. F. D., 4, Pasadena, Cal.

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What a Liner Will Do

Hynes, Cal., March 9th, 1908.

Having sold all my horses through your paper will enclose an ad for ranch. Want it to run four weeks.

C. E. Garrett.

EGGS FOR HATCHING.

FROM MY PRIZE WINNING BAR- Rocks; won all firsts, all seconds but and all specials on Barred Rocks at C. P. A. Show, 1907. Eggs from best $3 per 15; $12.50 per 100. Stock for CHAS. E. SMITH, Gardena, Cal. San Interurban car to Smith's Crossing.

B LEGHORNS (HOWARD STRAIN), Wyandottes (Hubbard strain) Eggs; rns. $5 per $100; Wyandottes, $7. Baby FROM BRED TO LAY STOCK SHIP- anywhere. Ranch 2 blocks from car. McLAUGHLIN. Gardena.

ED ROCKS A SPECIALTY—I CAN eggs from strong, vigorous birds to the skin and correctly mated for rd $2.50 per 15. Incubator lots a matter respondence. ENOCH CREWS, Darwin adway Sts., E. Santa Cruz, Cal.

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'S BRONZE TURKEYS ARE KNOWN world over; are unexcelled for size, ess, beauty of plumage and early ma- Eggs for hatching $5.00 setting, $35.00 0. ED. HART, Clements, Cal.

ORPINGTON AND WHITE s. $2.00 per sitting, $6.00 per 100. In- Runner ducks, $1.00 per 12, $5.00 per 100. lass stock. WYATT & WOLLITZ, Park Poultry Ranch, Corona, Cal.

SALE—EGGS OF THE FOLLOWING dard bred poultry: Black Orpingtons, reat winter layers, Brown and White rns. J J. VERKOUTEREN, route 3, rd, Cal.

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DARD BRED WHITE PLYMOUTH b of layers, unexcelled for table Eggs for hatching, $1.50 per sitting, per 100 MRS. M A. HUDDLESTON, lle, Cal

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RHODE ISLAND EGGS, WINSLOWS in. $1.00, $2.00, $3.00 for 15. MRS. E. ADAMS, Box 785, Monrovia, Cal.

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IT BRAHMA EGGS FOR HATCHING. 0 per 15 or $6.00 per 100. J. S. BEN- , San Bernardino, Cal.

ITE MINORCAS (EXCLUSIVELY)— t layers of large white eggs. L. V. ERSON, Guerneville, Cal.

IEL'S MAMMOTH BRONZE TURKEYS ggs at 25 cents each; 50 at 20 cents each; at $15. Order now. C. K. MORSE, dville, Cal.

ICE BUFF LEGHORN EGGS FOR e, price $1.50 per 15. MRS. WILLARD RK, Orland, Glenn Co., Cal.

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LE AND WHITE COLLIE PUPPIES— es, Brandane Wishaw Squire and Glen Bounder, litter brother to Aufield l. Dams, Ormskirk Glorlana and Pres- Neille. $10 to $25; 2 to 8 months. NALPINE KENNELS, Grandville, Cal.

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WANTED TO BUY GASOLINE ENGINE from 10 to 15-H. P., State make, where same can be seen, and lowest price. S., Box 14. care Cultivator, Los Angeles.

FOR SALE—COMPLETE PUMPING plants, electric, steam and gasoline; machinery of all kinds the equal of new at greatly reduced prices. BAILEY & BRANDT CO., Los Angeles.

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FOR SALE—AN EMERSON DISC PLOW, (new,) less than half price. R. B. EASLEY, Compton, Cal.

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BLACK MINORCAS OF QUALITY—A Choice lot of large size cockerels bred to standard requirements. A rare chance to get an excellent breeder $2 to $5. One pen mated up for my own use of finest high scoring female specimens and layers, standard weight and over, to a grand cock bird which headed Geo. H. Northup's first pen last season. A few settings to spare at $3.00. J. P. McDONOUGH, Geyserville, Cal.

WHITE WYANDOTTES—"CREAM OF THE Coast" strain—the 200-per-year kind. Barred Plymouth Rocks, my "Blue Diamond" strain, are great winter layers of big, brown eggs. No incubator lots furnished. Eggs per 13, after Jan. I, carefully packed, $1.50. Address WILLIAM C. PARKER, 111 Pacific avenue, Santa Cruz, Cal.

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EGG-MORE, THE GREATEST OF ALL "egg-makers" and the biggest seller. Highly concentrated though not a strong tonic and stimulant. A little daily with the feed does the business. A 25-lb. $2.00 pail for $1.50, if you haven't tried it; freight prepaid by us, if you name this paper. WEST COAST MILL, 818 San Fernando St., Los Angeles, Cal.

LAKE AVENUE POULTRY YARDS—WON 5 cups, 27 ribbons on Reds this season, including five straight firsts at Breeders' Show. Standard eggs $2.00 for 15, $8.00 for 100. Special matings $5.00 and $3.00 for 15. New mating list. 753 N. Lake Ave., Pasadena.

BUFF ORPINGTON DUCKS, THE GREAT commercial bird; good for market; great layers. Eggs now $3.00 per 12; $5.00 per 26 from our imported English blue ribbon strain. GOODACRE BROS., Compton, Cal.

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WHITE PLYMOUTH ROCK SILVER CUP winners at the big Chutes Park show, January 6th to 12th, 1908. Eggs, $2.50 and $2.00 per 13. Average score of first pen 95½. ADAM RANKIN, 271 Isabel St., Los Angeles, Cal.

WEST COAST CHICK FEED MAY COST A little more, but you can't afford to feed the little ones anything but the best. Of dealers, or $3.50 cwt., f. o. b. Los Angeles. WEST-COAST MILL, 818 San Fernando St., Los Angeles, Cal.

FOR SALE—BLUE ANDALUSIANS, A FEW cockerels and two or three trios. Eggs later. J. H. WALKER, Olinda, Shasta Co., Cal.

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WANTED—ONE-YEAR OLD LOGANBERRY plants. Address P. O. BOX 2697, Fresno, California.

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THERE ARE TWO CONDITIONS TO CONsider in buying land—the Fertility of the Soil and the Irrigation facilites. It must have an unfailing water supply, otherwise the Land is worthless. Not from some ditch that brings the Water from miles away, and that climbs up and down hill, and sometimes brings you Water when there is an overflow. What you must have is an inexhaustible stream or River that cannot and never has dried up. That is what has caused such a demand for Empire Ranch Land. The Kings River flows through it for 9 miles and it is one of the largest and most dependable Irrigation streams in the United States. An inexhaustible Water Supply.

THERE IS LOTS OF LAND, but not of the Empire Ranch kind. That is becoming scarcer every day. This is some of that Rich California Sediment Soil Land immediately adjacent to that Fertile strip of which Hanford (noted for its Butter), Fresno (noted for its Raisins,) and Lemoore is a part. Better arrange to Join Our Party for a trip to Empire Ranch. We have Special Excursion Rates—you pay your fare and we will pay all your expenses for two days. EMPIRE INVESTMENT CO., Phone B'dway 5074, 415 H W. Hellman Bldg., 4th and Spring, Los Angeles, California.

FOR SALE—1 to 10-acre tracts on car line between Riverside and new cement works. Good for chicken ranches, alfalfa or gardening. Will sell on easy terms. Plenty of water on each tract. C. C. POND & N. R. BELL. Riverside, Cal.

FOR SALE FOR $1750—AN UP-TO-DATE chicken ranch. Five hundred Rhode Island Reds. Well advertised. Good paying business in best inland town in State. If interested address "THE RED" care of Cultivator, 115 N. Broadway, Los Angeles, Cal.

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DELMONICO'S CHEF SAYS: "THE ANchor egg separator works perfectly; no well regulated hotel or household can afford to be without it." Send ten cents, or ten names of persons keeping poultry, and we will send one postpaid. WEST COAST MILL, 818 San Fernando St., Los Angeles, Cal.

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NO BETTER SEED GROWN THAN I OFfer you. Chilian watermelon seed white or red, 60c per pound; pineapple cantaloupe seed, 80c per pound by express. Mail fifteen cents extra; supply limited. S. FAIRBURN, Burbank, Cal.

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FOR PROTECTION OF LOWLANDS.

In order to make initial work effective according to the plans and suggestions of the Board of Engineers, known as the Dabney Commission, employed by the State to investigate and report upon the betterment of conditions on the rivers, there is now before the Congress of the United States H. R. Bill 3892, introduced by Congressman McKinlay, which has for its object the appropriation by the United States of $400,000 to be used in conjunction with a similar sum to be appropriated by the State of California to do such dredging, embanking and other necessary work to control the waters and protect the lands along the Sacramento and San Joaquin rivers.

The River Improvement and Drainage Association of California has been working to bring about the passage of this bill, and has enlisted the good offices of numerous people in all parts of the United States to bring pressure to bear on Senators and Congressmen from all parts of the Union to have them vote for the bill.

The association is anxious that every Californian who has the interests of the State at heart will join in this movement to the extent of writing or wiring to his Congressman and to the Senators at Washington, urging upon them the necessity for supporting H. R. Bill 3892.

The fruit crop of Washington in 1907 brought that State $10,000,000.

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Guaranteed to Deliver from 100 to 2000 Gallons per minute (depending on the diameter of the bored well) to a depth of from 50 to 300 feet below the surface

A Deep Well Pump that has no VALVES or PLUNGERS to wear out and are fast, taking the place of VERTICAL STEAM PUMPS, Deep Well Plungers and Propeller Pumps

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Great Bargain in Fine Land

The Big Field Ranch in Kern County is being colonized and is now on sale at the low price of $25 per acre, 1-4 cash.

It lies in the heart of activity in the San Joaquin Valley, a broad area of perfectly level land, consisting of rich sediment.

This land has an inexhaustible supply of artesian water, and is fully equal in productiveness to any land in California, regardless of price.

Suitable for grapes, alfalfa, peaches, grain, sugar beets, dairying, etc.

Unquestionably the greatest snap in high class land ever offered in the State. Excursions leave Los Angeles every few days. Call or write for maps, booklets and full information. Do not delay. Do not locate anywhere without seeing this magnificent property.

7000 acres have been sold to practical farmers. 5000 acres will be under cultivation this season.

Percy H. Clark Co.
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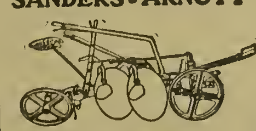

All Sizes for Orchard, Field or Engine
24 inch and 28 inch Discs
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Work in the sugar beet fields of Yolo county is a month in advance of last year.

Largest National Bank West of Denver and South of San Francisco

First National Bank
of Los Angeles, California
United States Depository for Government Funds

TOTAL RESOURCES, $20,000,000

ADDITIONAL ASSETS—One Million Five Hundred Thousand Dollars invested in the stock of the Los Angeles Trust Company and the Metropolitan Bank and Trust Co., and held by the officers of the First National Bank, as Trustees, in the interest of the shareholders of that Bank.

We are prepared to extend to the small depositor the same personal and careful attention that we do to our largest accounts.

IN THE CENTER OF THE CITY

SECURITY SAVINGS BANK

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The Oldest and Largest in Southwest

Call in and inspect our fine Banking and Safe Deposit Department. Best in the West.

Your Best Friend

in need is a savings account. This is true in countless ways, but more than any other it is your stanby when investment opportunities present themselves. Start a savings account now, and you will soon be in the position of having your savings make you money.

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Western Gas Generators

The most reliable and cheapest GASOLINE GAS GENERATOR ever put on the market.
For Lighting, Cooking and Heating.
This Generator is used by the largest hatcheries in California for Incubating and Brooding.
AUTOMATIC, SAFE, ECONOMICAL.

Read what Mr. A. W. Foster, President of the California Northwestern Railway, has to say about them:

Gentlemen: Replying to yours of the 20th inst., I would state that the plant installed for me by the Western Gas and Power Company on my Hopland Stock Farm, is giving entire satisfaction, and I cannot speak too highly of it. Yours truly,
A. W. FOSTER.

Mr. Foster used an acetylene gas generator before we installed our Western. Send for our latest Booklet.
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The boss sent me down to ast you to tell all your friends that we have mooved.

Nope, Im the janitor.

Yep, the other place got too small after pepul got onto that 1908 Model. Yep, that's the one where you can see the feed valve. Buisy[Well, I guess, we are; keeps me busy rolling em out on the walk to the dray.

Simple to operate? Well, yea'ss I should say so; sold one to a Widder woman whos boy don't know how to eat with a knife and fork, but he can charge the machine all right. So long! You fix it up, tell em all about Acetylene Gas. Oh tell em to come in and see us er elce rite.

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Now 738 So. San Pedro St. Los Angeles, California

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Household Departmen

THE SECOND TABLE.

Some boys are mad when com'ny comes to stay for meals. They hate
To have the other people eat while boys must wait and wait.
But I've about made up my mind I'm different from the rest,
For, as for me, I b'lieve I like the second table best.

To eat along with com'ny is so trying, for it's tough
To sit and watch the victuals when you dassant touch the stuff;
You see your father serving out the dark meat and the light
Until a boy is sure he'll starve before he gets a bite.

And when he asks you what you'll have,—you've heard it all before—
You know you'll get just what you get and won't get nothing more;
For when you want another piece your mother winks her eye,
And so you say, "I've plenty, thanks," and tell a whopping lie.

When com'ny is a watching you, you've got to be polite,
And eat your victuals with a fork and take a little bite.
You can't have nothing till you're asked and, 'cause a boy is small
Folks think he isn't hungry, and he's never asked at all.

Since I can first remember I've been told that when the cake
Is passed around, the proper thing is for a boy to take
The piece that's nearest to him, and so all I ever got,
When com'ny's been to our house, was the smallest in the lot.

It worries boys like everything to have the com'ny stay
A-setting round the table like they couldn't get away.
But when they've gone and left the whole big shotting match to me,
Say! ain't it fun to just wade in and help myself? Oh gee!

With no one round to notice what your doing—bet your life—
Boys don't use forks to eat when they'd rather use a knife,
Nor take such little bites as when eating with the rest,
And so, for lots of things, I like the second table best.

—Nixon Waterman.

THE CONDUCTOR.

THE young man on the back platform pulled the bell. The car started with a jerk. The girl caught at the door casing and the young man lightly touched her arm. She looked at him with a frown.

"You!" she cried.

He smiled. He had a very pleasant smile.

"Nobody else," he answered. "You'll find a seat forward, lady."

"What are you doing here?"

"Collecting fares."

She frowned again.

"Will you ever be in earnest."

"Fare, please."

She silently handed him a ticket.

"Transfer?"

"No."

She was quite angry. She would not look at him again, but passed into the car and up the aisle.

Nearly all of the passengers were men. There would have been room for her if they had moved closer together. They left her standing.

She reached up and clutched a strap.

Presently the young conductor came up the aisle.

"A little closer, please," he said, "and make room for the lady."

One of the men grumbled something about overcrowding, but he moved a little, and two more men moved a little, and lo! there was plenty of room.

The young woman sat down, she did not thank the conductor

"Did I get your fare?" he a her in an official tone.

"Yes," she answered.

"Transfer?"

"No."

He walked away smiling watched him and frowned How could he be so indiffer careless? She had no patienc him.

He had everything in his f very rich father, a fine ed the advantages of travel. Y steadfastly refused to make a fied use of these benefits. H popular personally, quite too po He might have gone into politi was just the man the poli wanted. But no, he resiste their attempts to draw him fro indolent ways.

She liked him, everybody him, but she couldn't forgi lack of all ambition.

He liked her. He had told but she resolutely kept him a tance. If he wanted her he prove himself worthy of her.

And here he was masqueradi a conductor. How could he t position that poorer men n How could he be so indifferent public opinion, to her opinion.

The young conductor remain the back platform. When the looked at him she saw that he a rather serious expression, wh was new to his usually pleasant f

Did he really have some spe object in view in these queer fre of his? He had filled all sorts positions during the last few ye Was he really studying his fe men? Had she misjudged him. I this smiling young fellow striv be an altruist? Had he som in view for humanity's bette If so, why didn't he confide t the girl he had asked to be his

She remembered what she h heard his father say to her f

"George must have his play s he had said, "and, luckily, he afford it. When he tires of his he will turn to something w while."

The car was running thro crowded section that was quit gested with foreigners. She something about this district. had done missionary work in several occasions. It was pleasant field for endeavor of sort. They were an ignorant and full of suspicion.

She glanced along at the sw tenements and at the noisy c playing on the curbs and the tering women in the doorway

The motorman was clangi bell almost incessantly. The was narrow and there were and peddler's carts and strag warn.

Suddenly she heard the out and the brakes were applied such force and suddenness that was nearly thrown from the She heard a shrill shriek as grinding wheels stopped

She looked through the ne window. The car had struck a c and flung it to one side. She sa lying face upward, white and st

The motorman leaped from platform; a screaming woman up and dropped on her knees be

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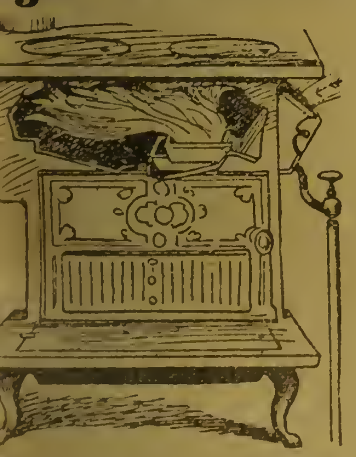

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An average girl is never satisfied til she acquires a son-in-law for r mother.

the little one. She was joined by the young conductor, who ran forward and knelt beside her. People were running toward them, screaming, gesticulating. A long-bearded man rushed up and struck fiercely at the motorman. A stone was thrown. She heard the crash of glass.

More people were running. The screaming and shouting seemed continuous. Twenty clutching hands tried to reach the motorman. Fifty voices hurled maledictions at him. He drew back against the vestibule.

The young conductor was standing up now. He had the child in his arms. He was talking to them. She saw his lips move. The people near him were listening, but those in the rear were wailing and shouting.

He pushed a little forward to where the motorman was crouching.

A man crept to one side and fiercely struck the motorman across the head with a heavy stick. The motorman slipped and fell at the conductor's feet.

"Lynch him! Lynch him! "the girl heard some one shout.

The conductor was very white as he faced them with the child in his arms, but his mouth was firmly set and there was a new light in his gray eyes.

Suddenly he put the little one in the nearest woman's arms and thrust back the shrieking mob that was struggling fiercely to reach the unconscious motorman. He caught the stick from the man who had dealt the blow and menaced the mob with it. A stone knocked off his cap and cut his white forehead. The girl saw the red stain and screamed and ran from the car.

There was no mob about the back platform. She leaped to the pavement and ran swiftly down the street. She remembered where the police station was. She had been there with a sorrowing mother whose only son was in trouble.

As she turned the corner she saw an officer in front of the station. She waved her hand at him.

"A mob," she screamed. "A mob is killing a man!"

He turned quickly and called something through the open doorway. Then he ran past her, another officer following close behind him.

Would they get there in time?

Presently she pulled herself together and turned back. When she reached the corner she saw that the police had forced the mob away from the car and were clearing the sidewalks.

Her strength came back to her and she ran forward.

The officer she had hailed was on the platform.

"It's all right, miss," he called to her, "but you didn't get us here any too soon."

He helped her aboard the car.

She gave a quick glance into the interior. She saw that the motorman was in the vestibule, an officer at his side. She saw the young conductor. He was propped up in the corner seat, his coat torn, his face grimy and stained. He looked up at her with a faint smile.

"He'll be all right presently, miss," said the officer. "He was putting up a wonderful fight when we got here. He saved the motorman all right—and you saved him. And the child isn't much hurt, either, miss."

The girl hesitated a moment.

"He's a little dazed, miss, but you needn't be afraid of him."

Afraid of him! She dropped into the seat at his side and gently drew the wounded head against her breast.

"Do you know him, miss?"

There was pride and infinite tenderness in her tone.

"I am to be his wife," she simply said.—W. R. Rose, in the Cleveland Plain Dealer.

RECIPES.

Crumbed salmon is a good luncheon dish. To make it use a pint of thin white sauce, seasoned highly with lemon juice and Worcestershire sauce. Add a can of salmon which has been broken into flakes with a fork. Fill ramekins with this mixture and cover the top with buttered crumbs and a spoonful of cream. Bake quickly in a hot oven.

Perfection Sweet Potatoes.

Remove skin and cut in half lengthwise medium-sized sweet potatoes, place a layer in a buttered dish, sprinkle lightly with salt, powdered sugar and tiny pieces of butter, then another layer and seasoning, until the dish is full. Season the top layer a little more freely, and bake half an hour. Increase heat and brown the top.

Pressed Chicken.

Chop fine any cold boiled chicken left over, season well with salt, pepper and butter and moisten with a little of the liquor in which it was cooked, or the gravy, add one cup dry bread or cracker crumbs, heat thro thoroly, put into a deep dish or basin with a plate on top and weight down until cold. Serve cut in squares on a platter garnished with water cress, parsley or lettuce. Nice for picnic lunches.—Hetty Hicks.

Chocolate Pudding.

Quarter of a pound of sugar, quarter of a pound of butter, quarter of a pound of chocolate, quarter of a pound of almonds, four eggs.

Rub the butter and sugar to a cream; add the yolks of the eggs and grated chocolate, the almonds, chopped fine, and, lastly, the whites of the eggs, well beaten; bake for one hour in a moderate oven.

Serve as soon as possible after taking from the oven. To be eaten with one pint of boiled custard.

Lenten Cooking.

The housewife who is eliminating meat from her menus these Lenten days must see to it that the drop in food values is not too great. Cheese is a good meat substitute, preventing the "gone feeling" that so many complain of when suddenly deprived of the meat diet to which they have been accustomed. Other nutritious foods are dried peas, beans and lentils, graham, cornmeal and whole wheat breads, with plenty of butter, cream and eggs. Scallops and fish or vegetables, served with forcemeat, make substantial main dishes for a meal, as also creamed salt codfish, the various forms of macaroni and spaghetti with tomato or cheese. In the transition from meat soups to the various vegetable creams or purees, cream may be used in place of milk with excellent results, while a carefully combined and seasoned vegetable soup will prove vastly more appetizing and nourishing than an indifferent meat soup.

SAID TOO MUCH.

First Tramp—After all it pays to be polite, pardiner.

Second Tramp—Not always. The other day I was actin' deaf and dumb when a man gave me sixpence. I says "Thank you, sir," and he had me arrested.—Tit-Bits.

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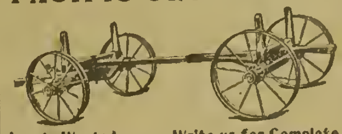

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The Produce Markets

Los Angeles Markets

Butter.

LOS ANGELES, March 18, 1908.

Butter has shaded 2½cents during the week and rumor insists that another decline is imminent.. In any case the tone is rather weak at this writing. The creamery men are endeavoring to hold quotations up, but buyers are holding off and hammering at the price.

Creamery ex per roll	.50
Firsts	.48
Dairy	.45
Cooking	.30
Eastern	.50
"Butterine"	.15@20

Cheese.

California Anchor	.18
Northern fresh	.14½
Eastern singles	.17
Imported Swiss	.29@30
Tulare flats	.15@15½
Domestic Swiss	.19
Oregon	.18

Eggs and Poultry.

Eggs shaded more during the later part of last week, but are now recovering slightly and conditions are fairly firm. It is even predicted that a further rise will prevail. As a result of the ups and downs the present quotation is slightly lower than seven days ago.

Eggs local candled	.17¼
Eggs case count	.15½
Northern candled	.17@17½
Case count	.15

Poultry remains practically as last week.

Hens per lb	.15@16
Young roosters per lb	.15
Fryers	.22
Broilers per lb	.24@25
Roasters	.18
Old roosters	.8
Turkeys	.15
Geese	.13
Ducks	.15
Squabs	1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds	5¾
Prime steers	4½
Heifers	4
Calves per lb	4½@5
Sheep ewes per head	4.75
Lambs per head	3.75@4.25
Wethers	5.50

Potatoes.

Highlands	.95@1.05
Early Rose	2.00@2.25
Salinas	1.25@1.50
Sweet potatoes per sack	3.25
Sweets Northern	3.00@3.25
Oregons	1.50
Idaho	1.25
White Rose	1.25
Watsonvilles	1.30@1.35
New potatoes by lb	.5

Onions.

Australian Browns	3.50
Bermudas per crate	3.00
Oregons	4.00
Minnesota	3.60
Garlic	.14½
Ohio	3.25@3.50
Colorado red	3.50
Nevadas	4.00

Vegetables.

Artichoke per doz	.75@90
do Jerusalem box	.75
Asparagus per lb	.15
Beets per doz	.40
Bell peppers per lb	.15@18
Beans limas per lb	.10@12
Beans green	.12@15
Beans Yellow	.5@8
Brussels sprouts per lb	.10@11
Cabbage sack	.35@40
Cabbage red	1.50
Celery per doz	1.25@2.00
Chili peppers per doz	.10
Chives per doz	1.25
Cucumbers per doz	.70@2.50
Cauliflower	1.00@1.25
Carrots per doz	.30
Egg plant	.8@10
Green onions doz bunches	.20@30
Hubbard squash per lb	.1@1½
Lettuce per crate	1.25@1.50
Mushrooms per basket	1.75
Pie Pumpkins	.1½
Peas sugar per lb	.6@7
Parsley	.30
Parsnips	.35@40
Rhubarb per box	1.50
Radishes per doz	.15@20
Salsify	.40
Spinach per doz	.15
Squash box	1.00
Turnips doz bunches	.30
Tomatoes per box	1.25@2.00

Citrus Fruits.

Navels fy	1.60@1.75
Navels ch	1.25@1.50
Tangerines	1.50
Culls	.40
Grapefruit seedless	2.50@3.00
Grapefruit seedlings	1.75@2.00
Lemons fancy	1.25@1.50
Lemons choice	1.00@1.25

Fresh Fruits.

Bellefleurs	2.00@2.25
Baldwins	1.50@1.75
Pippins 4-tier	1.50@1.75
W W Pearmains	2.00@2.25
Colorado Jonathans	3.00
Cal Ben Davis	1.75@2.00
Loquats per lb	.9@10
Persimmons	.5
Raspberries	.25
Strawberries	.8@12½
Extra fancy	.15

Dried Fruits.

Apricots	.18@22
Evap apples fy per lb	.11@12
Figs loose	.7
Peaches	.11½@12
Pears	.16
Nectarines	.16
Prunes	.3½@5½

Beans Dried.

Limas per ctl	5.25
Pink No 1	3.65
Lady Washington	3.85@3.95
Small White	3.75@3.85
Black Eyes	4.50@5.00
Garvanzas	5.25@5.75
Lentils	.12@12½

Nuts.

Almonds per lb	.17½
Pecans polished	.16@17
Peanuts Virgina	.8½
Peanuts California	.8½
Walnuts No 1 SS	.16
Walnuts No 1 H S	.14@15

Honey.

Extracted Water White	.7¼@7½
Comb W W	.11@15

Hay.

Price paid to producers f. o. b. Los Angeles are as follows:

Barley No. 1	12.00@14.50
Barley No. 2	9.00@11.00
Alfalfa northern per ton	12.50@13.50
Alfalfa local	15.00@16.00
Plain oat No 1	14.00@16.00
Wheat No. 1	15.00@16.00
Wheat No. 2	11.00@12.00

Grain.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl	1.85
Wheat in 100-lb. sacks	1.90
Barley	1.50
Corn Eastern sacked	1.80
White oats	1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn	1.85
Shorts	1.70
Bran	1.55
Oil cake meal	2.50
Feed meal	1.90
Rolled barley	1.55

San Francisco Markets

Butter.

SAN FRANCISCO, March 17, 1908.

The butter market is much the same as last week though very firm at this writing.

California extras per lb	.24
California firsts	.23
California seconds	.20½
Fresh Packing stock	.18½

Cheese.

California young American fy	.13½
California flats fy	.11
Firsts	.10½
Eastern fy	.17½
Oregon fancy	.12½

Eggs and Poultry.

Eggs declined and are again advanced to last week's quotations, though the market is rather weak at the advance.

Fresh ranch eggs	.16
Eggs firsts per doz	.15
Eggs second per doz	.14½
Thirds	.13½
Hens per doz	5.00@6.50
Hens extra	7.00@9.00
Young roosters	6.50@7.50
Old roosters	4.00@4.50
Fryers per doz	6.50@7.50
Broilers per doz	4.50@6.50
Geese per pair	2.00@2.50
Ducks young	5.00@7.00
Turkeys per lb	.14@16
Pigeons	1.00@1.25

Live Stock.

Steers No 1	.8½@9
Do second quality	.7½@8
No. 1 cows and heifers	.6½@7
Hogs 80 to 200 lbs	.5¾@6
Hogs 200 to 300 lbs	.5¼@5½
Calves per lb	.5@5½
Lambs	.6½@7
Wethers No 1	.5½@6
Ewes No 1	.5@5½

Potatoes.

River Whites	.50@75
Oregon Burbanks	.85@1.00
Lompocs	1.00@1.30
Early Rose	1.25@1.35
River Reds	1.35@1.40
Salinas Burbanks	.75@1.15
Sweets per crate	3.25@3.50
New potatoes per lb	.3@6

Vegetables.

Artichokes Jerusalem per box	.75
Asparagus per lb	.7@12½
Celery per doz	.25@40
Cucumbers per doz	.65@1.25
Chili peppers per lb	.8@12½
Bell peppers per lb	.10@15
Beans Limas	.12@15
Egg plant per lb	.10@12½
Green peas per lb	.5@11
Squash per box	.50@1.25
Marrowfat squash per sack	.60@75
Mushrooms	.75@1.25
Hubbard squash per sack	.60@80
Rhubarb per box	1.25@1.75
Tomatoes local	1.25@2.00
String beans	.12½
Garlic	.10@15

Onions.

Oregon yellow	3.25@3.50
Eastern	3.25@3.50

Citrus Fruits.

Navels fy	2.50
Navels ch	1.25@2.25
Grapefruit seedless	2.50@3.00
Lemons	1.50@2.50
Limes	3.00@4.00

Fresh Fruits.

Newtons	1.65@2.00
Spitzenberg	1.75@2.00
Pomegranates per box	1.00@2.50
Strawberries per crate	2.50
Aligator pears	1.75@2.00

Dried Fruits.

Apples (evap.)	.5¾@7
Apricots per lb new	.15@19
Figs white	.2¼@3½
Nectarines	.10@13
Plums pitted	.12@15
Peaches	.8@10
Pears	.7½@10
Prunes 4 size bag basis	.3¼@4

Beans Dried.

Limas	4.40@4.60
Pink	3.00@3.10
Small white	3.60@3.75
Large white	3.00@3.10
Lady Washington	3.45@3.50
Black Eyes	3.25@3.50
Red Kidneys	3.20@3.40
Garvanzas	4.00@4.25
Bayo	3.00@3.10
Horse beans	2.25@2.40

Hops.

Hops per lb	.4½@6½
Hops old fancy	.1@1½

Nuts.

Nonpareil	.13@13½
Ne Plus Ultra	.1½@12
Walnuts No 1	.13@13½
Hardshells	.12@12½

Honey.

Clear white comb	.16@17
Amber	.12@15
Extracted	.7½@8
Beeswax No. 1 per lb	.26@27
Beeswax No. 2 per lb	.23@25

Hay.

Choice wheat hay	15.00@16.50
Good wheat hay	14.00@15.00
Other grades same	11.00@14.00
Wheat & oat	10.00@15.00
Tame oat	10.00@14.50
Wild oat	9.00@12.50
Stock hay	7.50@@9.50
Alfalfa	9.00@13.50
Straw per bale	.50@.90

Grain.

Wheat No 1	1.57½1.60
Barley No 1	1.37½@1.40
Corn large yellow	1.60@1.65
Oats white	1.52@1.57½
Oats red	1.70@1.75

Feed Stuff.

Bran per ton	29.00@30.00
Feed cornmeal per ton	35.00@37.00
Cracked corn per ton	36.00@38.00
Rolled barley per ton	30.00@32.50
Oil cake meal per ton	38.50@39.00
Cocoanut caks per ton	26.00@27.00
Middlings	32.00@35.00

Citrus Market

LOS ANGELES, Cal., Mar. 18, 1908.

The orange market is in very good condition and the market seems to receive willingly the vast quantity of fruit now going forward. As high as 250 carloads have been forwarded in a day, though, as a rule, present shipments aggregate about 200 cars. It is thought that for sometime now the output will not run over 200 and from that down to 175. But as noted above, the Eastern market seems to be taking this vast quantity, and the price is being held very satisfactory to the shipper, thought it is, of course, not up to last year's returns. All there are of navels, Valencias lemons, probably 18,000 cars yet forward, but as the Valencias lemons are a strong factor, thought that the navels will be sorbed by the Eastern market at fair prices.

Owing to the vast quantity of to go forward and to the mo prices that have and will prevail, is a strong hope that the railroa panies will consent to a slight tion in the rate. As it now is th road company is receiving mo the orange grower.

The auctions quoted below fair indication of the ruling though, of course, prices in oth kets usually prevail slightly than the auction.

Lemons.

Lemons are still in the dump vast quantities of foreigns b thrown on the market. These i tations are slowing up and the is felt that the market will soon

Shipments.

Total shipments of citrus fru date aggregate 12,446 cars, of 1663 are lemons. Last season date 10,241 cars, of which 1116 lemons.

NEW YORK, March 17.—Ni navels, four lemons and one bloo Navels firm and 5 cents higher o fruit. Lemons in good demand strictly fancy. Ordinary stock dull. Weather cloudy and cool.

NAVELS—

Sweetheart Highgrove Ft Ex.
Eagle Highgrove Ft Ex
Parrot S T Ft Ex
Hawk S A Ft Ex
Hawk S A Ft Ex
Iris D M Ft Ex
Violet D M Ft Ex
Parrot S T Ft Ex
Blue Globe Riv Ft Ex
Trail S T Ft Ex
Canon S T Ft Ex
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Blue Flag Spence Ft Co
Mocker Spence Ft Co
Criterion Penn Ft Co
Scout Penn Ft Co
Orchard Nat O Co
Orchard Nat O Co

BLOODS—

Golden Orange Riv F Ex

HALVES—

Sweetheart Highgrove Ft Ex
Golden Orange
Fayette Penn Ft Co

TANGEDINES—

Blue Globe Riv Ft Ex

GRAPEFRUIT—

Iris D M Ft Ex
Violet D M Ft Ex
G P Fitzgerald

LEMONS—

Tally-ho S B Ft Ex
Pet S A Ft Ex
Greyhound S A Ft Ex
Duck S A Ft Ex
Cycle Fillmore C F Assn
Flower Grs t Co
Choice
Standard

BOSTON, March 17.—Ten cars Twenty on track. Weather is clo Market strong and higher.

NAVELS—

Jameson Q C Ft Ex Cor
Golden Rule R Ft Ex Riv
George Washington R Ft Ex
Beulah R Ft Ex Riv
Victoria R Ft Ex Riv
Cosmos S B Ft Ex Yerkes S
Rose Red O G Assn
Standard Nat O Co
Triumph Cal Cit U
Pine Cone S B Ft Ex High
Aulpha Riv Ft Co
Elk Riv Ft Co
Vista Bonita J A Graham

BLOODS—halves—

Southland Beauty Q C Ft Ex Cor
Leader Q C Ft Ex Cor

BLOODS—boxes—

Valla Vista Gr Ft Co

NEW YORK, March 16.—Thirty navels, two lemons and one blood sold Market easier and lower, but closed strong and higher. Lemons in good demand, higher on strictly fancy fruit

NAVELS—	Avg.
Rose Redlands O G Assn	2.30
Clover Red O G Assn	2.2
Independent Cleghorn Bros	2.45
Stock Cleghorn Bros	2.20
Mt Harrison F L Sewell	2.35
Lionhead I L Lyon & Sons	2.40
Tigerhead I L Lyon & Sons	2.30
Whittier W F Whittier	2.15
King Midas C E Whitcomb	2.35
Gypsy Queen Moul & Gre	2.30
Tropical Queen Moul & Gre	2.20
American Beauty C J Carruthers	2.30
West Highland Cleghorn Bros	2.30

ldas C E Whitcomb	2.30
S B Ft Ex	2.15
an Beauty C J Curruthers	2.30
Grs Ft Co	2.35
n Penn Ft Co	2.30
enn Ft Co	2.05
d Nat O Co	2.80
d Nat O Co	2.25
la	2.20
Riv Ft Co	2.55
v Ft Co	2.35
Pattee & Lett	2.30
ion Moul & Gre	2.25
lag Spence Ft Co	2.15
Spence Ft Co	1.95
eart Highgove Ft Ex	2.65
Highgrove Ft Ex	2.45
resta A H Ft Ex	2.90
a A H Ft Ex	2.65
Rule Riv Ft Ex	2.45
O K Ft Ex	2.40
S BFt Ex	2.35
r S BFt Ex	2.30
A Ft Ex	2.25
Knight R H Ft Ex	2.35
ne S B Ft Ex	2.35
bra N Bailey & Son	2.10
T C Ft Ex	2.10
ur R H Ft Ex	2.20

DLINGS—

el T C Ft Ex	2.20
T C Ft Ex	1.85

ONS—

ndent Cleghorn Bros	2.75
Midas C E Whitcomb	2.00
ye Ohio Lemon Co	1.50

Tally-ho S B Ft Ex Rialto	2.40
Golden Flower Red G O Assn	2.45
Rancho S B Ft Ex Col	1.30
Pointer A C G Ft Ex Latin S	2.20
Puritan S B Ft Ex Rialto	2.50
Big R S B Ft Ex Rialto	2.30
Corona Queen Spence Ft Co	2.30
Carnation Moul & Gre	1.90
Our Popular F M Speich Co	2.10
Young America Pinkham-MvKev	2.10

LEMONS—

Pilastre A H Ft Ex Prenda	2.50
Squirrel A H Ft Ex Prenda	2.70
Troubador A H Ft Ex Prenda	1.85

PHILADELPHIA, March 16.—Four cars navels, four mixed cars and two cars lemons sold. Market is strong and higher. Weather clear, cooler. 2500 boxes Florida oranges sold. The market is higher on Floridas also.

NAVELS—

Pico S T Ft Ex Whit	1.57
Cosmos S B Ft Ex Yerkes S	2.41
Rialto Girl Grs Ft Co	2.50
Vista Bonita J A Graham	2.42
Tea Party	2.30
Salt Lake A L KinKg	2.27
Carmencita S T Ft Ex Fuller	2.51
Coral S B Ft Ex Yerkes S	2.26
Native Son King Ft Co	2.43
Valle Vista Grs Ft Co	2.41
Blossom Red Mut O Co	2.26

BLOODS—Native Son, $1.37; Valle Vista, $1.22.

Rialto Girl Gr Ft Co	2.50
Producer Red O Pack Co	2.45
Chess Queen Ely-Gilmore Ft Co	2.40
Rialto Girl Gr Ft Co	2.35
Atlas Haight Bethel	2.25

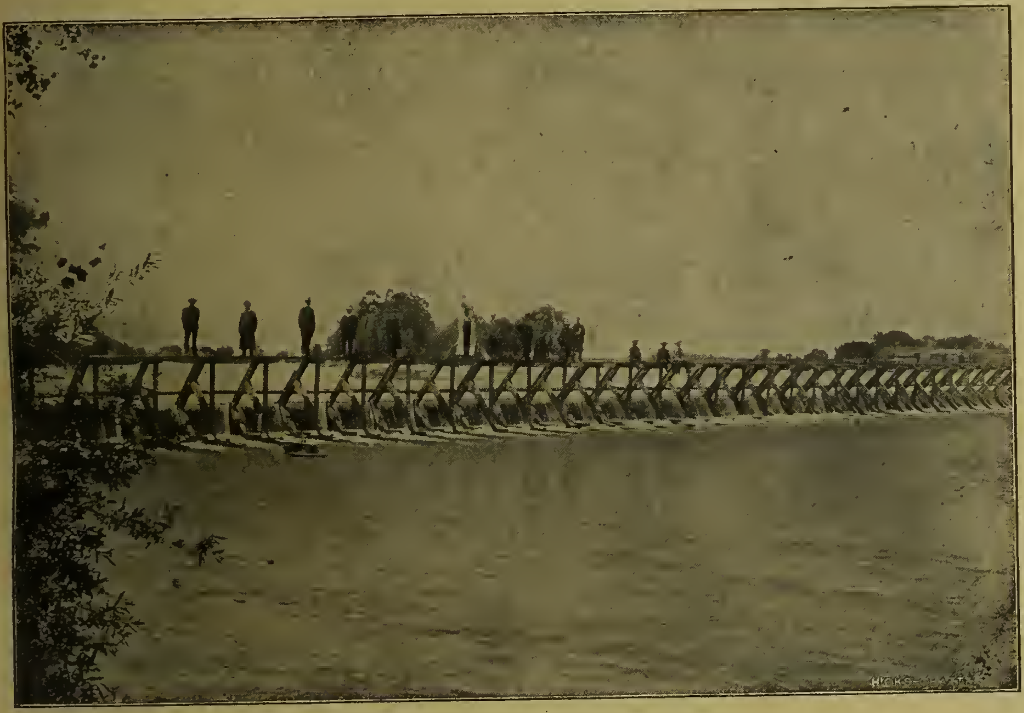
NAVELENCIAS—

Quail O KFt Ex	2.50
Lark O K Ft Ex	2.35

BLOODS,Halves—Sweetheart, $2.05; Bear,$2.25.

LEMONS—

Pet S A Ft Ex San Dimas	2.50
Duck S A Ft Ex San Dimas	1.80
Greyhound S A Ft Ex	2.20



Weir and Intake of the Central Canal and Irrigation Co., Colusa County.

endent Cleghorn Bros	2.45
ction Ohio Lemon Co	1.65

OODS—halves—

er Grs Fruit Co	1.30
r Pattee & Nye	1,30
nel T C Ft Ex	1.20
ard Grs Ft Co	1.20
theart Highgrove Ft Ex	1.35

NGERINES—

er Red O G Assn	1.55
theart Highgrove Ft Ex	1.90
O K Ft Ex	1.90
Midas C E Whitcomb	1.10
en Rule Riv Ft Ex	1.85
alla O Gr C Assn	2.50

NCINNATI, March 16.—Weather.
Market steady. Five cars sold.
e on track. Florida brights,
@1.80; russtes $1.45@1.80.

MONS—

S A F Ex San Dimas	2.25
k S A F Ex San Dimas	1.70
yhound S A F Ex San Dimas	2.10

VELS—

us Belle Independent Ft Co	2.40

TTSBURG, March 16.—Five cars
Three on track. Weather fav-
ole.

AVELS—

ote O K Ft Ex O K	2.00
rside Oranges Riv Ft Ex Riv	2.15
nard Nat Or Co	2.85
alimo	2.25
erside Oranges Riv Ft Ex Riv	2.10
mine D M Ft Ex Duarte	2.45
dard Nat Or Co	2.55
ne Sparr Ft Co	2.25

EMONS—

adise S T Ft Ex Arroyo P	1.70
nic S T Ft Ex Arroyo P	1.45

LEVELAND, O., March 16.—Mar-
strong. Weather favorable. Eight
s sold. Nine on track.

AVELS—

ral S B Ft Ex Col	2.05
g A C G Ft Ex Latin S	2.40
nter A C G Ft Ex Latin S	2.15

ream Separators, all sizes, all prices.
J. Weber Co., 555-557 S. Los Angeles
et, Los Angeles.

LEMONS—

Club S T Ft Ex Sawtelle	1.99
Plain S T Ft Ex Sawtelle	1.82
Pico S T Ft Ex Whit	1.30
Club S T Ft Ex Sawtelle	1.85
Lemon Cove T C Ft Ex Lem Cove	1.71

ST. LOUIS, March 16.—Weather favorable. Market stronger. Nine cars sold. Twelve on track.

NAVELS—

Cougar Cov Ft Ex Cov	2.10
Troubador A H Ft Ex	2.25
Cosmos S B Ft Ex Yerkes S	2.45
Ben Hur R H Ft Ex Red	1.85
Royal Knight R H Ft Ex Red	2.65
Lochinvar R H Ft Ex Highland	2.50
Belt R H Ft Ex E High	2.50
Troubador A H Ft Ex Prenda	2.30
Carrier S B Ft Ex High	2.35
Coral S B Ft Ex Yerkes S	2.25
Newsboy R H Ft Ex Red	2.30
Belt R H Ft Ex E High	2.35
S S Sunset Ft Ex	2.20
Blossom Mut O Co	2.30
Lake	2.15
Mutual Mut O Co	2.50
La Belle Mut O Co	2.30
White Cross	1.90

LEMONS—

Bridal Veil P-McKee	2.25

BLOODS—

Troubador A H Ft Ex Prenda	2.10

RUBY BLOOD—

Newsboy R H Ft Ex High	2.40
Royal Knight R H Ft Ex E High	1.85

BOSTON, March 16.—Eighteen cars sold. Twenty-seven on track. The market is advancing. Weather favorable.

NAVELS—

Swan R H Ft Ex Red	2.45
Princess Q C Ft Ex Cor	2.45
Cosmos S B Ft Ex Cor	2.45
Sweetheart High Ft Ex High	2.70
Rose Red O G Assn	2.60
Elephant Or Gr C Assn	2.55
Rossmoyne E M Ross	2.45
Clover Red Or G Assn	2.10
Trade Mark O G C Assn	2.35
Golden Scepter Rialto O Co	2.35
Laurel Q C Ft Ex Cor	2.00
Golden Rule Riv Ft Ex Riv	2.50
Queen Bee Q C Ft Ex Cor	2.40

BE UP-TO-DATE.

Charles Arthur Carlisle, of the Studebaker Bros. Mfg. Co. of South Bend, Indiana, made a vigorous appeal to the farmers of the St. Joseph valley, in Northern Indiana, on Tuesday, February 4th. Mr. Carlisle divided his address into several questions, embracing the following:

First. Does it pay the farmer to keep blooded stock? Under this head an effort was made to cover the entire field of cattle, including the beef and dairy type; also sheep, hogs, poultry, etc. The intrinsic as well as the artistic value of high bred stock and the practical influence in developing the highest efficiency of the animal was clearly brought out in the effort to interest the farmer in systemmatically undertaking to bring up to the highest possible standard all that he undertakes to develop. Records of recent sales of cattle, sheep and hogs, such as that at Disko, Ind., on last New Year's day, when 115 head of Poland China pigs sold for $29,222.50, an average of $254.10; and recent sales of Berkshires, Chester Whites, Duroc Jerseys and other pure breeds of pigs; the records of sales of fat stock at the recent Live Stock Show in Chicago, the fine sales of pure bred Guernsey's at Madison, N. J., and of registered Jerseys at Lowell, Mass., and elsewhere, all of equal interest, were presented in evidence of what others are doing and what others can do. Mr. Carlisle maintains that pure bred stock has a wonderful stimulating influence in developing a keener interest for the boy and the man on the farm, and develops better care, more careful handling, judicious mating and results in greater profits, pleasure and pride.

Second. Does it pay the farmer to study modern farm science? Under this head, the selecting of seed, planting, cultivating and harvesting of crops; the care of the soil and the feeding of stock on a balanced ration; care of buildings and sanitary methods, were part of the arguments covered in arriving at the conclusion that it "assuredly does pay the farmer to study and apply modern farm science." Mr. Carlisle placed before his large and interested audience the opinions of President Roosevelt, Secretary Wilson of the Department of Agriculture, and the editorial and personal views of a majority of the most able and advanced writers of the day. In concluding the subject, Mr. Carlisle made a strong appeal to each person to subscribe at once for one or more of the leading agricultural papers, first as an evidence of good will and a desire to co-operate in the excellent educational work that such publications are doing, and second with a keen desire to learn. Learn personally what others are doing, then upon the basis of practical knowledge and observation make individual improvements as they suggest themselves. The short course and the high class work of the agricultural colleges, such as Purdue at LaFayette, Indiana and the State colleges of Iowa, Wisconsin, Nebraska, Illinois, Michigan and Ohio was emphasized.

Third. Does it pay the farmer to unite the force of his influence with that of his neighbor in the country and in the town? This subject was divided into several parts. In the first, the speaker developed the force of co-operation, social intercourse, improvement in community interest, and benefits of good literature. He then took up the question of modernizing the curriculum of the district, the ward and the town school, so as to include modern farm science, and made an urgent appeal for teachers who had a training in this direction. In concluding, Mr. Carlisle often quoted from the address of President Roosevelt, at Lansing, Michigan, on May 31, 1907, bringing before his audience the President's thoughts upon these great questions and upon the greatest development of American manhood and American womanhood. Mr. Carlisle is an enthusiast in the development of country pure bred stock, scientific as well as sanitary methods, and devotes his leisure time to this work upon his country place near the city, but above all he takes a keen delight and great interest in every effort to improve the opportunity of the American boy and girl both in country and town.

WORKS UP BRUSH.

The great fuel waste of orchard, vineyard and eucalyptus trimmings has been noted by many and the wish expressed that they might have some machine for working up such stuff. We are informed that this very useful machine has been invented by Mr. Geo. B. Southard.

It is a mechanical device for bringing these limbs and twigs into such compressed form as to make commercial fuel.

Mr. Southard claims that the expense of this manufacture is so slight as to make the machine a success.

Water Pipe Cheap

25 CAR LOADS NOW BEING UNLOADED

250,000 feet of this shipment is second-hand pipe, practically as good as new, and is now on sale at a big discount by the Adams Pipe Works, 2025 Bay street. Sizes and prices: ¼ inch 1½ cents per foot; 3-8 inch, 2 cents per foot; ½ inch, 2½ cents per foot; ¾ inch 3½ cents per foot; 1 inch, 4¾ cents per foot; 1¼ inch, 6 cents per foot; 1½ inch, 7 cents per foot; 2 inch, 9¾ cents per foot; 2½ inch, 15 cents per foot; 3 inch, 18 cents per foot; 3½ inch, 20 cents per foot; 4 inch, 32 cents per foot.

Oil well casing prices and sizes: 2 inch, 7 cents per foot; 2½ inch, 9 cents per foot; 3 inch, 13½ cents per foot; 3¼ inch, 15 cents per foot; 3½ inch, 17 cents per foot; 4 inch, 18 cents per foot. All pipe is carefully inspected, new coupling and new thread are put on every piece, every joint is guaranteed to be first-class, serviceable pipe. This pipe is sold in any amount; small orders are given the same attention as large ones. Mail orders promptly filled. To reach the Adams Pipe Works, take car marked Pacific Boulevard, starting east on 7th St. from Broadway. All lines will transfer to East 7th St. new line. Ask conductor to let you off at Bay St., and go east half-block. Phones, A1917, Broadway 1263.

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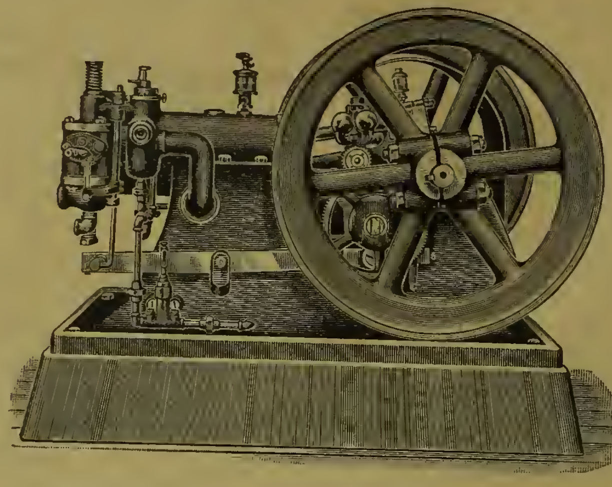

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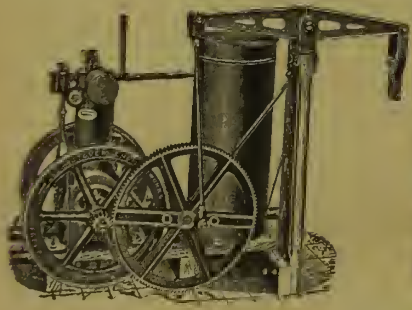

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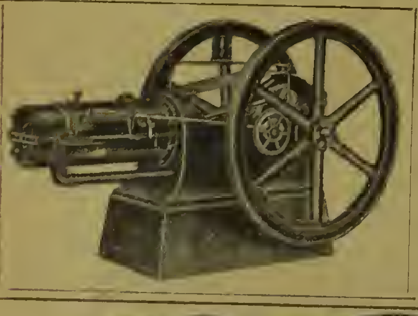

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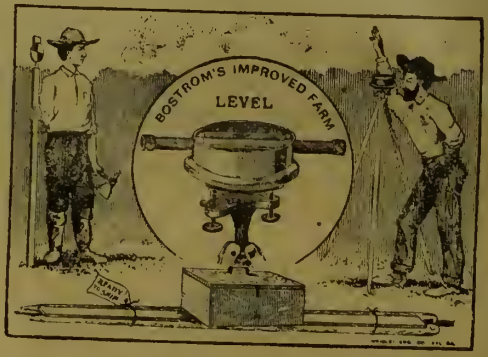

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Angeles March 26, 1908 San Francisco

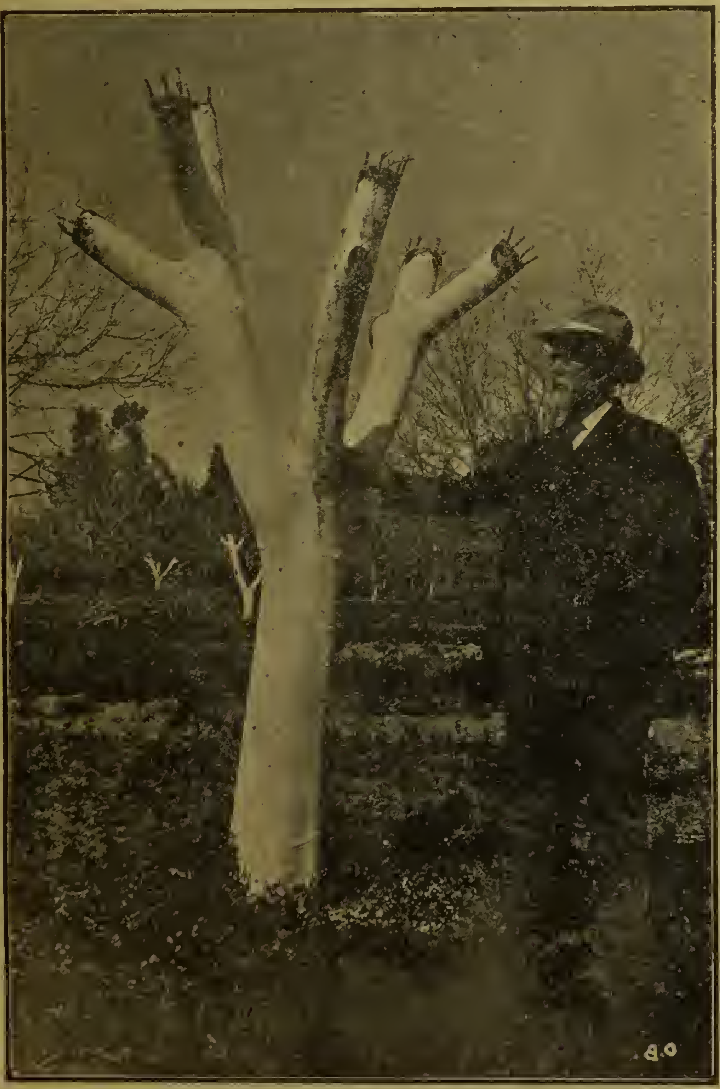
afting of the Walnut is Necessary

Some Thoughts from the Pathological Laboratory Institute and a Photograph Showing One Manner of Grafting

THE Whittier Institute the feeling seemed to prevail that lays of the seedling walnut are numbered. Prof. Smith emarked that the time is coming when the seedling walnut no more common than is the seedling apple today. The or the black walnut, seemed ne preferred stock amongst speakers, but some few still he seedling orchard. The owever, is joining with the ees which bear sparingly to growers to a realization of ition confronting them. The ice given was perhaps for er to go slow and plant only e has satisfactory trees be from the best of bearing nd so far as possible resist- light. We say so far as for no tree absolutely re- as been discovered.

urse an old grove of seed- y be grafted over, leaving es as are good bearers to ile the grafts are growing. the work now taken up in ard of J. B. Neff of Anaheim. of these trees have been his season. Mr. Neff would afted more had there been t scions from trees of known nd fairly resistant. At the Institute Mr. Neff spoke of in part as follows:

rt of the seedling walnut or- as gone over just before time ng and the trees that did not paying crop of nuts, as well e bearing small and mis- nuts, were marked so they distinguished later. By this means it was possible to leave good trees that had practically produced the crop and to the maximum production, while any increase that may m grafting will be profit.



e orchard was planted 15 years ago. The large trees had ight branches left, which were cut where they were from six inches in diameter. All other branches were taken off the body. This left stubs fom three to six feet long, and in average of six scions were placed. These scions were m a tree that is producing 200 pounds and more, of large per year. The grafting is done carefully so as to have the rk of both scion and stock on the same line, and all cuts covered with hot wax. The body of the tree is covered itewash to prevent sunburn.

s necessary to examine the trees every few days when they grow and to close any openings in the wax so the scion will not be exposed to the air. A good operator will place 300 scions in a day, and one assistant will cut the trees and wax the scions as fast as placed.

"After the scions have begun to grow it will be necessary to nail laths on the tree in such a manner that the growth may be supported by tying to the laths and the sprouts that are very close the scions should be removed, but a large part of the sprouts should remain until they are two or more feet long and then be headed back to prevent further growth, but do not cut back the growth of the scions at any time during the growing season."

The process of grafting was shown by samples of walnut branches with scions in place and by photographs of the trees in the orchard. One of these photos appears on this page, and gives a very good idea of the manner in which the scions were placed. The cleft graft plan was used, though not like the ordinary cleft through the center of the stump, but a diagonal cut is made to one side of the center in a way that the possibility is from three to six scions in each limb.

Prof. Ramsey also exhibited a style of graft, a modification of the whip graft, which has been largely experimented with by the laboratory force this year, and will later prove its worth or otherwise as the grafts grow.

As a further proof of the thought expressed at the convention, we may quote from Prof. Smith's paper:

"During the past ten years the acreage of English walnuts in Southern California has increased many fold by planting of thousands of acres of these trees. The tree is naturally long lived, hardy and a large and regular bearer. Yet during this period the crop of nuts has not only failed to increase, but has gradually decreased. The production today is no greater than it was ten years ago, with very much less acreage at that time and less than one-half of what a conservative estimate would indicate for the number of existing trees. At the same time our imports of walnuts from foreign countries are steadily increasing, so that in the year 1906 we produced about six thousand tons in California and the country imported over sixteen thousand tons, mainly from France. There is no more attractive horticultural pursuit than walnut growing. The work is clean, easy and unconfining, the product valuable, useful and not easily liable to injury or deterioration. What then is the trouble? The grower says, "'Walnut Blight.' In immune trees lies the only permanent and satisfactory solution of the walnut blight problem. That such trees are not a dream of the future, but already exist, has been demonstrated to the satisfaction of all who have taken the trouble to look into the matter."

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Growing Chick Food

After hatching your chickens and raising them successfully up to 5 or 6 weeks old, they are worth something to you, and every one that dies now is a distinct loss in the cost of feed you have used, as well as the cost of hatching and subsequent care of them.

Therefore, in deciding what feed to use now that they are getting too large for the baby chick food, you must exercise the same care as before, to give them the best.

The Best Feed with the Least Labor

Is what you want and that is where

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comes in.

Coulson's Growing Chick Food is rich in protein, owing to the meat and bone it contains. The grains and seeds in this food are not all ground up, a portion being granulated, so as to give their digestive organs sufficient work to insure health. The food contains a large variety of ingredients, which furnish the growing chick all it requires for quick, healthy development.

COULSON'S GROWING CHICK FOOD is especially adapted for feeding dry in hoppers, as well as dampening as a mash.

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COULSON'S GROWING CHICK FOOD can be placed in a hopper in sufficient quantity to last for several days. If this hopper is properly constructed there will be no waste, and the consequent saving of labor in feeding is large. The chickens thrive amazingly well on it, and are kept in the most healthy condition, as with the dry feed always with them, they have no desire to gorge, with consequent digestion troubles.

Many have hesitated about trying this method of feeding by reason of the cost of the hoppers required. A good hopper for dry feeding can be made by any one at a very slight expense. We will be pleased to furnish a simple method of making these hoppers, free of charge to you.

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with

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COULSON'S GROWING CHICK FOOD can be used for chicks from 4 to 6 weeks old up to 3 months old, when COULSON'S EGG FOOD or IMPROVED MASH EGG FOOD should be fed them.

If your dealer does not handle COULSON'S GROWING CHICK FOOD, write to us and we will tell you where you can get it.

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WRITE FOR PAMPHLET AND PRIC

alifornia Cultivator

XX–No. 13 Los Angeles, California, Thursday, March 26, 1908 Subscription $1 a Year

ening of the Pathological Laboratory

A Great Farmer's Institute Held at Whittier in Honor of the Opening of the Southern California Pathological Laboratory. A Day Given Each to Vegetables, to Walnuts and to Citrus Fruits

ecial Farmers' Institute held at Whit-
t week, celebrating the opening of the
rn California Pathological Laboratory,
nto history as the most important meet-
kind held this year in the State. From
g session to the close the attendance
and interest in the proceedings un-
he presence of several university pro-
nan ed the value of the meeting and
occasion a dignity which all present
ut feel was inspiring.

was given over to the vegetable grow-
ctor Neff presiding at the sessions.

RALPH E. SMITH.

ith director of Southern California Patho-
oratory has accomplished much work of
to farmers of California. His work with
of the lemon, is well worth the cost of the

kson in his introductory address went
ork of the experiment station at Whit-
s relation to the university, expressing
t the proficiency it has attained and
g for it an important part in the exten-
cientific agricultural knowledge. He
some length on the value of experiment
rk in California, and the growing in-
ifested by the people of the State in the
nt of agricultural interests. Prof.
s always interesting, and on this occa-
mean the entire meeting—was never in
n nor listened to with greater interest.

un supplemented the address of Prof.
speaking of the importance of the labo-
rk in its stimulation of individual effort,
enefit that comes from personal associa-
wers in institutes of this sort.

Industry of Southern California.

urtis of the California Vegetable Union
this subject at considerable length. He
art:

the heavy shipping season, November 1
1, Southern California vegetables are
sale in practically every important mar-
e United States and Canada, and I am
say that our vegetables are looked upon with favor by the critical Eastern consumers; cars were shipped which netted the growers nearly $1,000,000.

The celery is practically all from the famous peat lands of Orange county, 6000 acres being devoted to this vegetable alone. The industry was started in 1890, but for the succeeding three or four years it was in the experimental stage, and in consequence it was well along to 1897 before any large quantity was shipped east in car lots. However, since the business was established on a solid basis, shipments have increased each year, and now California celery is a big factor commercially in all markets."

"Good celery land now sells as high as $500 per acre.

"Cauliflower is grown extensively, 500 cars being shipped during each season.

"Cabbage is produced in most all sections of Southern California, and is in market the year round. Last season over 1000 carloads went East, which netted growers about $18 per ton.

"Tomatoes form a constantly-increasing product in Southern California. The California fall and winter tomato of the Stone variety has no equal as a shipper. Four years ago no shipments were made in carload lots, but now several cars daily go out during the shipping season.

"California Bermuda onions from Coachella and Thermal are one of the new features in the vegetable line. Heretofore the most of the Bermuda onions have come from Texas, but from now on the desert section must be considered. Last season sixty cars were shipped which netted the growers over 2 cents per pound on the entire crop. This year the crop is estimated at 300 carloads, and it will only be a few years when a thousand cars will be shipped. There is a very bright future for the Coachella and Thermal onion growers.

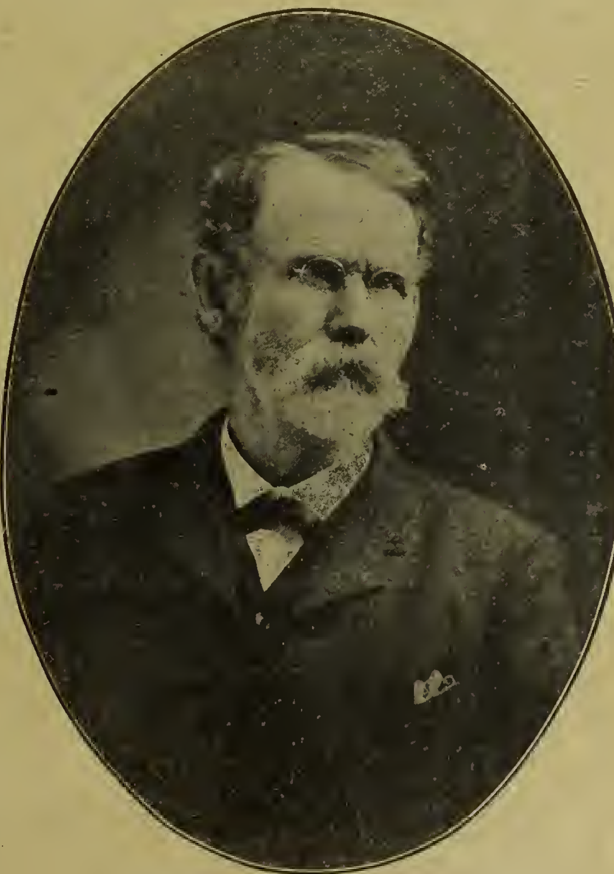
"Early potatoes are ready for market during May, June and July, and come at a time when they are wanted. While Southern California is not a large producing section for potatoes, still each year sees several hundred carloads shipped, and generally speaking, at good prices. In addition to the above, asparagus, artichokes, lettuce, bunch vegetables, green peas, string beans, and other small vegetables are grown on a very extensive basis, and most of them are to be had every day in the year."

The plan of operation of the California Vegetable Union was given in detail, with much interest, by Mr. Cronemiller, who said the union was formed to care for the celery crop of Orange county, but had grown to a much larger organization than its promoters had anticipated.

Tomato Growing.

T. M. Lambert contended that there are more tomatoes canned and shipped in Southern California than any other vegetable except sweet corn. He urged that the essential conditions necessary to successful tomato growing are good soil, ground well prepared, thorough cultivation and some irrigation. Plant in rows seven to eight feet apart, from April 15, to May 15. Thin out to permit free access of air and spraying; do not fertilize the beds, do not irrigate too much, cultivate well at first, then more shallow later. Thickly-planted plants will blight easily. Mr. Lambert said he had good success using dry-farming methods in raising tomatoes. His instructions as to picking were of interest. Most people roughly pull tomatoes from the vines, squeezing them so that injury to them makes culls. Put the hand around a tomato and, with the thumb, wrench off, but never pull nor squeeze. Use two buckets in picking, one for perfect tomatoes and the other for culls. Never ship too ripe tomatoes, and haul to market in a spring wagon. Shallow boxes do not bruise like deep ones. Never plant on low ground where there is danger from frost. In case there is danger from frost, smudge as the citrus growers do.

The blight, said Mr. Lambert, caused a loss last year of from $80,000 to $100,000 in this district. Stake your plants and keep them off the ground. By this means insects can be killed with spray.



Courtesy Rural California.

J. H. REED OF RIVERSIDE.

Father of the movement which induced the Department of Agriculture to send G. Harold Powell and his trained experts to investigate orange decay.

T. W. Phelps said he had staked his plants, but received no benefit, for they had blight just the same.

Prof. Ralph Smith discouraged the use of sulphur, and recommended Bordeaux mixture. He said it is best to spray as soon as possible after rain and between showers. Plant with the idea of spraying, make rows wide enough to drive a power machine between the rows. Be prepared to spray thoroughly and quickly. Do not wait for

Continued on Page 362.

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for profit and adornment
Roses and Plants
that please and beautify

Write for our new illustrated Catalog descriptive of the leading California Fruits, Roses, Ornamentals, Eucalypts and everything for the orchard, avenue and garden.

Armstrong Nurseries
Ontario, California

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Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials.

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Having about six thousand Walnut trees that have to be moved on account of close of lease, I will make special prices on them for the next thirty days. These trees are two and three-year-old Santa Barbara soft shell variety, stocky and well rooted, running from four to ten feet in height. Seed selected from one of the best orchards in Orange county. A rare opportunity to get good trees at right prices.

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Tim Carroll, Proprietor Anaheim, Orange Co., Cal.

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All eucalyptus and Cypress taken up with my patent transplanter, with a ball of earth around the roots and placed in rows in flats with sand sprinkled between for shipment.

Prices on application.

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Deciduous Fruit Cul

ROOTING GRAPE CUTTINGS.

IT IS a common sight to see grape cuttings in the nursery set at an angle of 45 degrees with several inches projecting above ground. This exposed top has no root to supply it with moisture during the beginning of the season, and in dry localities like the Imperial valley, they will die for an inch below the surface of the ground.

We chanced to see some young vines just from the nursery last fall that were planted at an angle in the nursery and the vines when ten months old had elbows in them that made correct transplanting impossible. Cuttings should be planted perfectly erect or near enough to make them practically straight, the top with the root. The best length for a cutting is ten inches to a foot on ordinary soil. In light soil that is apt to dry out, a little longer is better. In the clay soils of the Imperial valley, ten-inch cuttings are better than a foot where irrigation is frequent. The cuttings should not be allowed to project above the surface more than an inch and only for the purpose of outlining the rows for convenience in cultivating and irrigating. Cuttings planted deeper than ten inches or a foot will rot at the lower ends in the clay soils of Imperial, and the projecting tops will dry out. Plant so that the top bud is at the surface. If it does not start the bud below is in a good position to make a top.

When planting in the nursery in other than the desert section, we prefer to plant with one bud above the ground and the bud below just at the surface.

When planting cuttings in vineyard form, thay should be 18 inches or two feet long and the holes should be made with a bar. The soil should be settled around them with water, which can be easily and cheaply done with a tank on a wagon with a hose attached to a hydrant on the tank.

Eastern grapes do not root as readily as the European varieties, and it is best to cut the lower end through a bud or near it where the cane is enlarged. The canes of all varieties of grapes start roots more readily from these enlarged places, though European varieties start roots readily from any point where the cut may be made.

—J. W. Mills.

SPRING. REMEDIES. FOR. THE WOOLLY APHIS.

We have had another mild winter and, as a result, the woolly aphis of the apple trees has lived over in rather large numbers. The last brood of lice that came into existence in the fall very largely migrated down the trees and spent the winter in any convenient hiding place that would give them some protection from the cold. These little lice do not have the cottony secretions which give the larger lice the white color, so that they are likely to be mistaken for a different insect.

In a recent visitation of many orchards of the State, I found these young lice in very large numbers about the crowns of the trees just beneath the surface, where the earth had cracked open so that they could enter; and in some numbers upon the trunks and branches beneath scaly bark are the dead bodies of the large lice that were kille
cold weather of late fall
ter.

As soon as we have a
tive warm days, these l
locate upon the tend
branches, insert their b
gin to suck the sap of t
soon as they begin to
manner, the cottony co
creted as a protection to
ies.

The best time to destr
is before these little ove
have established themsel
bark of the trees.

It is not necessary to
the buds begin to swell
ing this insect. In fact,
the woolly aphis may b
time during the winter
these lice cannot be kil
the spray comes in d
with their bodies so as t
it is important that th
be very thorough, and
made with sufficient fo
it into every crack and
bark of the tree. At th
year it is specially
drench the entire su
trunk and large limb
ground also, for a foot
about the crown of the tr

A good kerosene emuls
about 7 per cent oil, a str
decoction or a good q
whale oil soap, may be u
destruction of these lice
ough application at this
do away with the necessity
and more expensive spray
leaves are out.

Prepare by dissolving on
ordinary soap in a gallon
water. When boiling ho
from the fire and add at
two gallons of kerosene. A
the kerosene is added,
mixture as briskly as p
pumping it back into the v
taining it through a spray
Then dilute to thirty gallon
ply.

Tobacco Decotion.

Use two pounds of tobac
tobacco stems, to each fou
of water. Put the tobacco
water to cover it well and
below the boiling point fo
or two. Then dilute to th
lons and apply.

After the leaves appear
trees it would be well
close watch for little wh
which indicate the pres
insect. If they are not too
they may be destroyed an
kept in check by swa
these patches with coal
can be done by taking a
tity of oil in a basin or o
dish and applying it by
swab or paint brush.—C. P
Entomologist, Colorado
College.

Never sell a thing from t
that can be doubled in value
ting it into some other pro
a bushel of corn can be dou
feeding it to hogs, it should n
sold. If the income can be
by dressing the hogs before
them they should never be sol
The successful farmer is not
who raises the largest crops,
one who makes the most out
crops raised.

onserving Soil Fertility

An Address before the Whittier Farmers' Institute.

BY E. L. KOETHEN OF RIVERSIDE.

HERE was a time when our or- nge growers asserted that to aply manure to the soil would the orange trees. They said soil was so rich that they would r have to fertilize. They soon vered their mistake, but we been guilty of the strangest va- s in our efforts to maintain a inuous cropping condition in orchard. All sorts of materials been tried, organic and inor- c, and all imaginable methods times of application have been rted to, until these sayings are mon. "The fertilizing problem mystery;" "No one knows any- g about it;" "No two adopt the theories." To some extent this ue. It is true that we do not v just the most economical meth- to pursue with all ranches. That are often at a loss to know just t plant foods can be most eco- ically applied. Certain forms of rials seem to give good results imes, and again, not only fail, seem to work injury. And yet, ough it all, those who have stud- the problems to best advantage, e determined on some principles underlie soil fertility, which are blished beyond controversy, and ich are a good working basis.

rhaps the experience of River- e citrus growers will be profitable use as an example of how not to it.

erside's Experience.

fter the period of "No fertilizer" l passed in Riverside, the growers ing to the extreme of using ex- ive amounts of fertilizing mate- ls. Sheep manure was cheap in se days, and great quantities were ted to the orchards. Also all ilable barnyard manure, with the ult that some groves produced enomenal crops, so heavy in some ses that the trees were so weak- ed by over production, that they ve never recovered from the ef- ts. Then came a period when ma- res had become scarce, and the e turned to the use of commercial tilizer exclusively. For a time s was conducive to good results, t soon proved just as disastrous as the former extreme, and even far more widespread. The trees became mottled in leaf and failed to bear.

In most cases the trees set a large crop, but a large percentage of the fruit never reached maturity. Either it fell off or ceased growing and produced quantities of small, thick rind, defective specimens, with a pale, sickly exterior and no flesh.

It became a serious question whether the older orchards were diseased or worked out. The age of a citrus tree for profitable bearing was seriously discussed. Young orchards were producing the profitable crops, but the old trees seemed to be diseased. Horticultural clubs discussed "Mottle Leaf" and well they might. The Riverside club set a special committee at work on the problem and their report gave three contributing causes for the trouble: Lack of humus in the soil, formation of irrigation hard pan and frost. Since that time it has been demonstrated that the latter is only a secondary cause, that irrigation hard pan is largely found by the cementing of the subsoil after the use of acidulated phosphates in soils lacking in humus, combined with a series of dry years. This humus is sifted down to be the main cause of mottle leaf. (We are not quite sure that in addition to this there was not another and an important cause. We refer to the direct deleterious effects of large applications of acidulated phosphates worked deeply into the soil, thus injuring the roots of these trees.)

These discoveries lead to another extreme in the practices of the growers. Many, many of them ceased the use of commercial fertilizers altogether and adopted the crop or barnyard manure, or both, as their only system of fertilization.

This was also disastrous. Not that the trees were injured, but the soil became depleted of phosphoric acid, and crop production fell off. Orchards that had recovered beautifully from the mottle leaf, bore heavy crops after the humus was restored for a time, but soon fell off and light crops were realized.

ANALYSIS TYPICAL SOILS.

Samples.	Humus.	Nitrogen.	Lime.	Potash.	Phos. Ac.
1—Per cent.					
st Ft.	.386	.021	1.444	.930	.156
rage 7 Ft.	.191	.0136	1.378	.838	.143
t Ft.—Lbs. per acre...	18,142	987	67,868	43,710	7,332
rage 7 Ft.	8,977	639	64,766	49,386	6,732
—Per cent.					
st Ft.	.211	.0154	1.232	.734	.162
erage 5 Ft.	.150	.0105	1.376	.658	.149
st Ft.—Lbs. per acre....	9,917	723	57,904	34,498	7,614
erage 5 Ft.	7,050	493	64,672	30,926	7,003
3—Per cent.					
st Ft.	.368	.0380	2.44	.81	.123
erage 6 Ft.	.198	.0294	2.286	.825	.108
st Ft.—Lbs. per acre ..	17,296	1,814	114,680	38,070	5,781
erage 6 Ft.	9,306	1,382	107,442	38,775	5,076
4—Per cent.					
rst Ft.	.705	.0331	.884	.481	.158
erage 6 Ft.	.387	.0177	1.750	.4605	.1375
rst Ft—Lbs. per acre...	33,135	1,555	41,548	22,607	7,426
erage 6 Ft.	18,181	831	82,688	21,643	6,462
5—Per cent.					
rst Ft.	.894	.0381	1.148	.572	.237
erage 5 Ft.	.743	.0270	1.359	.531	.225
rst Ft.—Lbs. per acre....	42,018	1.790	53,956	26,884	11,139
erage 5 Ft.	34,939	1,268	63,882	29,947	10,584
6—Per cent.					
rst Ft.	3.76		2.73	1.60	.31
			3.42	1.23	.26

VETCH.

ght of en Crop Actual e.	Lbs. Nitrogen per Acre.	Lbs. Phos. Acid per Acre.	Lbs. Pot. per Acre.	Value Nit. per Acre.	Total Estimated Value
81,070	272.96	113.50	337.77	44.50	75.03
68,970	209.59	94.92	289.46	32.76	49.51
HAIRY VETCH.					
75 367	244.16	131.71	364.00	36.59	55.82

Continued on Page 351.

HARD HITTERS

Hard hitters receive hard knocks and must be made to resist them. The man who bought a nameless hammer a year ago probably has a useless hammer to-day, with a battered, chipped and broken face, and a handle that continually comes out.

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E. C. SIMMONS KEEN KUTTER TRADE ST. LOUIS U.S.A. MARK

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Water Melon—Chilian, Philippina, Angelena, are the best.
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Field Corn—King of the Earlies, Early Mastedon, Iowa Silver Mine.

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The Berry and Rhubarb Specialist Pasadena, California

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Oranges and Lemons

When the right varieties are properly grown and planted, are money makers. Our new booklet on Citrus Culture tells all about the standard sorts, planting, cultivation, irrigation and packing the crop. Over 100 illustrations and something like 50,000 words of text. The price is merely nominal, namely, 25 cents. May we have your name for a copy?

San Dimas Citrus Nurseries

R. M. Teague, Prop.

San Dimas, Cal.

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Citrus Trees

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Pollard Bros.

ALHAMBRA, CAL.

When writing advertisers, mention Cultivator.

With the Citrus Growers

COMPUTING THE COST O FERTILIZERS.

THE unit system of calculating the value of fertilizers is not as generally understood as it should be, and if the following explanation is preserved by the users of fertilizers, they can buy intelligently when they have occasion. It is purely a mathematical proposition and can only be correctly figured out by following the rules of arithmetic. Harris and Myers give us many examples, and we quote chiefly from them.

The unit system is based on one per cent or 20 pounds per ton. That is, each 20 pounds of fertilizer that is found in a ton makes a unit. If, for instance, a ton of fertilizer contains but 40 pounds of actual potash, it is said to contain two units of potash.

Suppose we buy dried blood said to contain 10.50 per cent of nitrogen equivalent to 12.75 per cent of ammonia. Quoted at $2.50 per unit, a ton would cost $31.875. This would figure out a little more than 15 cents per pound for nitrogen. If it contained 10.50 per cent nitrogen or 210 pounds per ton, at 15 cents per pound, it would cost $31.50.

If you buy dissolved bone-black guaranteed to contain 16 units of available phosphoric acid at $1.40 per unit, it will cost you $22.40 per ton.

For the purpose of converting certain chemical compounds into the equivalent of another, the following rules are used:

To convert a guaranteed per cent of sulphate of potash to an equivalent of actual potash, multiply the per centage of sulphate of potash by .54. This is because the sulphate of potash when pure contains 54 per cent of actual potash.

To convert actual potash to an equivalent per cent of sulphate of potash multiply the actual per cent of potash by 1.85. This is because the actual weight of the sulphate of potash which contains 54 pounds is 100 pounds, or one hundred fifty-fourths, which is equal to 1.85.

To convert muriate of potash to an equivalent of actual potash, multiply the amount of muriate of potash by .63.

To convert actual potash to an equivalent of muriate of potash, multiply the per cent of actual potash by 1.585.

To convert nitrogen into an equivalent amount of ammonia, multiply the given amount of nitrogen by 1.214.

To convert ammonia into an equivalent amount of nitrogen, multiply the given amount of ammonia by .8235.

To convert a guaranteed per cent of nitrate of soda to an equivalent of nitrogen, multiply the per cent of nitrate of soda by 16.47.

The grower cannot expect to get 2000 pounds of nitrogen, phosphoric acid and potash when he buys a ton of fertilizer containing them, even if he does not want anything else. The nitrogen is a gas and has to be combined with some base or heavy material and other gases in order to be tangible.

Potash cannot be used pure as it is a basis of strong alkali and must be used in combination with sulphur and oxygen when sulphate of potash is used and when muriate of potash is used, it must contain clorine gas. When you buy 2000 pounds of high grade sulphate of potash, you have to buy 920 pounds of stuff that you have no use for. Tbis is not what is known as "filler," it is the necessary combination as described above.

In 100 pounds of actual nitrogen obtained by using nitrate of soda you must use 900 pounds of soda and oxygen for which you have no use. Potash and nitrogen can be obtained from material that is very uniform in quality, but with phosphoric acid it is quite different.

When phosphoric acid is obtained from bone not treated with acid (it is then known as raw bone,) the phosphoric acid is not soluble in water and is, therefore, not readily available for the plants. The amount of available acid in a fertilizer can only be determined by a chemical analysis.

There will be found some nitrogen in the bone and the amount will depend on the treatment given the bone. If phosphoric acid could be found in as pure a combination as potash and nitrogen, we would then have to use 600 or 700 pounds of lime with it, but there are always a number of other minerals in the bone that we do not need, but they go to make up the bulk.

Suppose that we buy a ton of fertilizer that contains 1500 pounds of bone, 300 pounds of nitrate of soda and 200 pounds of sulphate of potash, what would it be worth? Suppose that it contains the following: 1500 lbs. 3.5 per cent nitrogen, 52.5 lbs.; 300 lbs. nitrate soda 96 per cent pure, 16 per cent nitrogen 46.08 lbs.; 1500 bone containing 21 per cent available; phosphoric acid, 315 lbs. 200 lbs. sulphate potash 50 per cent actual potash 100 lbs.

Calculating the nitrogen in the bone at 16 cents per pound, it would be worth $8.40, and the phosphoric acid at 8 cents per pound, it would be worth $25.20 for the phosphoric acid. The 46.08 lbs. of nitrogen at 16 cents per pound, would be worth $7.37, making a total of $40.97 for the ton of fertilizer.

Had this fertilizer contained but 280 pounds of actual phosphoric acid instead of 315 it would have shown that there has been about 170 of filler added. It takes 170 pounds of bone to make 35 pounds of phosphoric acid.

Turlock is asking for a cannery.

An orange stealer at Pomona has paid for his sport by putting up $25 fine.

An orange grove of 200 acres has just been sold for nearly a quarter of a million dollars.

Pullman, Washington, recently held a fruit growers' convention, which was largely attended.

One hundred carloads of apples were shipped from Garfield, Oregon, during the past season.

Pomona is constructing one of the most complete orange packing houses in Southern California.

Most of the orange shipments of Southern California are going by the northern roads, so as to defer the icing as far as possible.

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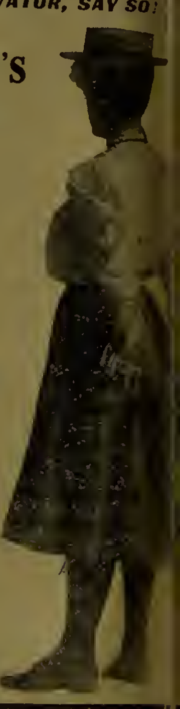

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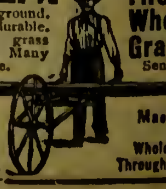

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Machine Complete 45 lbs. Wholesale Agencies Throughout the Country

RVING SOIL FERTILITY.

ontinued from Page 349.

the growers are settling to a more rational policy.

Rule.

rule now is, use cover—crop or rd manure, or both, as a basis fertilization. Back this up what additional plant foods are by the use of simples chiefly imal matter.

commercial fertilizers now for are tankage, bone meal, nitrate of soda and sulphate ash. It is true that large quan- of complete fertilizers are still but where there is one ton of sold there are ten tons of the es used in the Riverside or- s.

Foods Needed.

the fourteen elements necessary per plant nutrition, there are our that are ever found lacking soil to any great extent. These are nitrogen, phosphoric acid, h and lime. It will be by the chart that our soils ly contain lime to the ex- of from 1¼ to 3 per cent or 4 ent, which is sufficient under ary conditions. Government tin No. 77 on liming the soil "some authorities place the t limit at ½ of 1 per cent. s place it at 1 per cent. If the amount is the safest limit, it be seen that one of the analyses e chart indicates a need of lim- and it would pay the owner to an experimental application.

e nitrogen is the most unstable, ost expensive and the most nec- y of these elements. It is only be most careful management it can be retained in the soil out loss. Phosphoric acid is in importance, because of its parative scarcity.

tash, the fourth element, should be lost sight of, though usually dant in our soils. These ele- ts are found in barnyard manure, gh not in the best proportions fruit production.

ing mineral products, our Cali- ia soils are usually naturally in both phosphoric acid and pot- but are naturally deficient in ogen and also humus. For this on, the two mineral elements are n found in unavoidable com- nds. This brings us to the most ortant item in the question of fertility.

nus.

alley in "Principles of Agricul- " says "decaying organic matter ns mould or humus. The mineral nents may be said to give 'body' he soil, but humus is what gives life' or 'heart.'"

umus not only gives plant food the soil, but improves the physical dition of the soil and makes it genial for plants. It augments water holding capacity, modifies extremes of temperature, facili- es the entrance of air, and accel- tes many chemical activities."

does more than this, too. It fur- hes vegetable acids that act on minerals, and is life to the soil another source. It is the home or vironment in which the various l bacteria do their work.

No humus, no bacteria; no bacteria, soil fertility.

This is the dictum issued from the highest schools of agriculture today.

Again it is to the humus that we must look for our supplies of nitrogen. It is true, we could add it in the form of mineral nitrates, but to store it in that form is an impossibility. It is only when locked up in humus that a soil can be said to be really rich in nitrogen. We see then, that we are absolutely dependent upon decayed organic matter for our very existence. So, soil fertility and its maintenance after all, largely revolve around the maintenance of a supply of humus, and this is especially true of California where humus is naturally lacking.

How to Obtain Humus.

We have, in the main, three sources of humus at our command. Given in the order of their value, they are cover crop, barnyard manure and blood and tankage.

The blood and tankage, because of the small applications used, would seem to be of little importance, but it must be remembered, that their humic value as compared with barnyard manure are for blood 100 points; for manure, 3.5; for tankage, 60 points. So they may well be reckoned with as potent sources of humus. Of the manure little need be said, as its value is too well known to need extoling. But its value is not confined to the actual plant food therein contained, nor its humic values, though portions of it are much more quicklly available than is popularly believed.

We are told that it has a value not heretofore even suspected, viz.: that it can and does bring with it nitrifying bacteria which take the nitrogen direct from the air, just as those do which work on the roots of legumes. Both manure and cover crop yield to the soil a supply of carbonic acid which is essential in the processes of soil digestion. They loosen up the soil and make it friable, and develop in it latent fertility.

In addition to this, the cover crop especially improves the condition of the subsoil by penetrating it with rootlets which, decaying, leave little channels open for the penetration of air and water. It also prevents washing during heavy rains, and thus conserves fertility that might otherwise be lost.

Soil Digestion.

Finally, let us look at this question from a purely scientific point of view, and yet extremely practical. The soil may be compared to the animal stomach in that the processes of digestion are parallel. A soil may be rich in plant food and yet comparatively sterile. You may feed a man rich food and yet if he fails to digest it the man will starve. So you may place plant food in the soil and if the soil fails to digest it the trees planted in it will show all the symptoms of starvation.

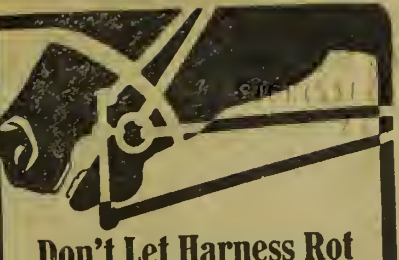
The commercial fertilizers used exclusively by Riverside growers at one time contained complete sets of the elements and yet they failed to yield their nutriment to the tree, because the gastric juices were absent in the soil.

These digestive processes are complex, and are the result of bacterial activity. Crude nitrogen is converted into peptoids, and the bacili are called peptinizers.

Peptins are converted by further change due to another set of bacili

Continued on Page 356.

For Mehring Foot-Power Milking Ma- ines see O. J. Weber Co., 555-557 S. s Angeles St., Los Angeles. Cal.



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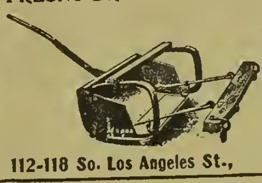

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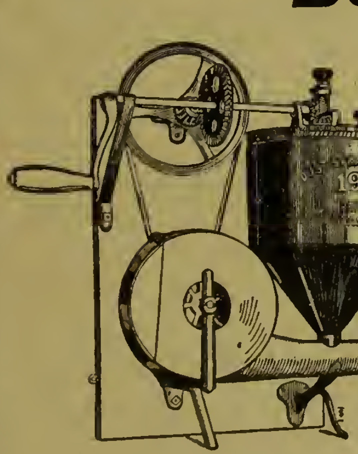

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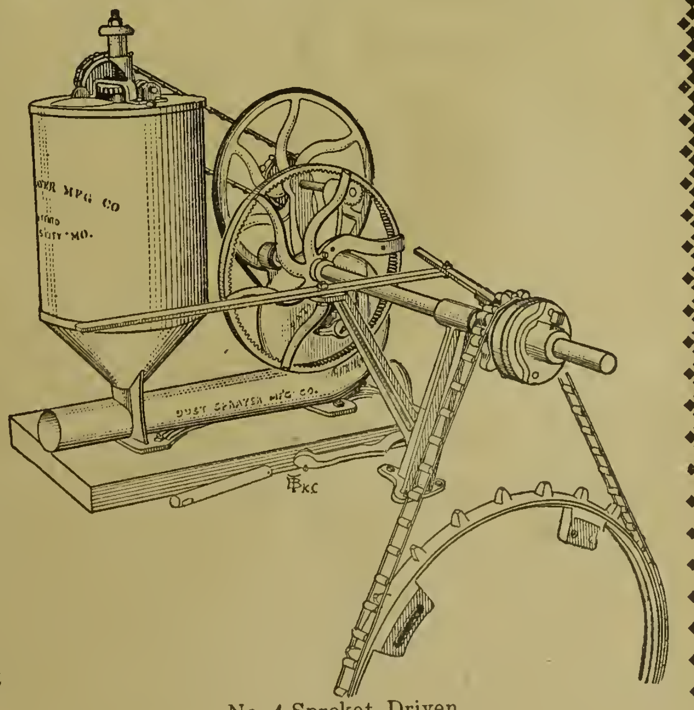
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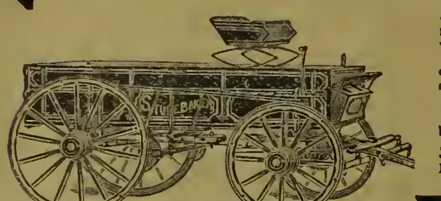

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I also have a Ranch of 110 acres adjoining the town of Nipomo, all fine, rich bottom land, with $9000 worth of first class improvements, consisting of splendid home of 10 large rooms, 2 cottages rented, 2 fine barns, and water piped to all buildings; $14,500 takes the whole thing, easy terms. They are asking $150 per acre for the same kind of land in the neighborhood. This would cut up and sell in small blocks nicely; in fact, it is already plotted and maped in town lots, and there is a strong demand for small places of this kind of rich land. I also have a delightful country home one mile from the city of San Luis Obispo for $10,000.

San Luis Obispo County Farmers are making money, but prices of our lands are behind the times. Write me for what you want.

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Mr. F. J. Kimball, Agent,
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Dear Sir:

In reply to your letter in regard to the efficiency of the Harris Pump, will say that since we have been running this pump we have not experienced any trouble whatever. We are getting the best of satisfaction in every way and have made an increase of 38 per cent to 40 per cent in water and have saved considerable in electric power.

We are pumping a mile from our plant and have six complete turns in our pipe line. Working under these conditions, we have certainly gained a great advantage with this pump.

Yours very truly, J. O. Cashin.

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Water Tank

Citrus Growers Aid

An address on the Citrus Grower and the Pathological Laboratory at tl tier Institute.

BY C. C. TEAGUE OF SANTA PAULA.

IN THE fifteen years that I have been actively engaged in horticulture in this State, I have met so many problems that I could not even intelligently attempt to solve, and which require a technical, scientific education, that I feel that I am competent to testify as to the benefits of scientific investigation in horticulture. It is difficult to estimate the vast amount of good that has been done and is being done by the gorvernmental investigations, State and national, that are being constantly carried on by scientific men, particularly during the past few years, for the betterment of the products of the soil.

There seems to be quite a general opinion among some of our horticulturists and farmers that the men engaged in this work are not practical men, and that the money appropriated for that purpose is not well spent. I feel very sure that any fair-minded man can soon disabuse his mind of that opinion, if he will take the trouble to get a list of the bulletins published by the government and by our State university, and send for and carefully read some of them on the subjects in which he is particularly interested.

It has been my privilege to meet and become well acquainted with a number of men both under the Department of Agriculture and the State University, and I have found them, without exception, to be earnest, able men, striving honestly and intelligently to solve the many problems which vex us.

In my opinion, the public money which has been spent in research for the benefit of agriculture, horticulture, forestry and stock raising, has brought many times over more direct monetary returns than public money spent for any other purpose. Here in Southern California where on account of such a diversified climatic and soil condition, our soil products are so varied, we particularly need this pathological laboratory, and its corps of trained men, to whom we may take our troubles. To me it is a source of great gratification and comfort to feel that these men are here to protect the interest of the fruit industry, which is of so much and of such increasing importance to the State.

The citrus business is by far the most difficult of any branch of horticulture. That is to say, it requires more knowledge and intelligence and painstaking effort. Therefore, its needs for a pathological laboratory are very great. After all, none of us know much about the business. Who is there that knows anything about "Puff in Oranges," "Variegated Leaf," "Center Decay in Lemons," "Black Speck," (which has been troubling orange growers this year;) "Why some trees in your grove thrive and others do not under same treatment," "Pitting of Lemons," "Dry rot in skin of lemons."

I think I could almost add "Fertilization," to the list of diseases of which we know nothing about, and as deserving of consideration by our partological laboratory, for an improperly fertilized grove amounts almost to disease. As a positi of what has been accomplis the men in charge of our path laboratory, I would particula your attention to brown lemons. Four years ago this infectious disease put in its ance in our groves, it being ticed in the curing house, an wards was traced to the grov it originated, and where it still continues to do some but the principal damage was fection of the washing mach the diseased lemons which through them, thus transmitt disease to a large percentage sound lemons. How this tro might also say "menace" to t dustry,—was mastered, and th age reduced to a minimum, is detail by Professor Ralph E. bulletin on "Brown Rot Lemon." That the trouble w tered I am positively able as the Limoneira Compa alone by brown rot during t prior to the university inves was at least $20,000, and sin time has practically amou nothing.

But even if you feel satisfie the present condition of your g and none of these problems ar rying you today, do you feel that tomorrow some trouble m beset your grove with which will not be able to cope? B means, then, let us stand toget support of this pathological l tory, which means so much f good of the citrus industry. It duty of every grower to see to i sufficient money shall be appr ed so that the grand work of th stitution shall not in any wa hampered, and to give to this tution every aid in his power.—Teague.

BURNING OUT STUMPS.

The following method of disp of large stumps is very effica and labor-saving. Whether it w be applicable to small hard stumps I do not know, but it is a trial. The principle is the in burning charcoal, and I would apply to any wood tha make charcoal. To clear la large stumps, dig a fair-size down by side of stump and b fire of pieces of good firewoo snugly against the stump. Gr cover the fire with soil and keep ered; if well started and kept ered by occasionally throwing soil on where it is likely to b out, the fire will continue until the whole of the stu burned into charcoal. On sou our large fir stumps, 10 or 1 across, the fire will burn two m or more, and follow roots 10 feet underground.

Capacity of a ten-ton freight Salt, 70 bbls.; lime, 70 bbls., f 90 bbls.; eggs, 130 to 160 bbls., f 200 sacks; cattle, 18 to 20 he hogs, 50 to 60 head; sheep, 80 to head; lumber, dry, 10,000 feet, l ber, green, 6000 feet; barley, bushels; wheat, 340 bushels; ap 370 bushels; corn, 400 bushels, p toees, 430 bushels; oats, 680 bush bran, 1000 bushels.—Ex

es and Their Care

QUEEN-REARING.

QUENTLY I am asked wheth- it pays a producer to rear his n queens. This is a rather estion to answer, for so much on the ability of that pro- and on his experience in rear- d queens, says a correspondent anings. Many circumstances ve a bearing on the subject, the number of queens required y, the kind of honey produced, r comb or extracted, the time rplus is secured, and the lia- f the young queens mating with able drones. All these circum- and many more should be well red before the producer de- o rear his queens. If he has colonies, and is anxious to ll he can about bee-keeping, auy regard to the amount of he may secure, then I would him to purchase a good breed- en and learn as soon as possi- w to rear choice queens. In a his experience will be worth to him as long as he continues p bees.

t in North.

of the worst troubles in rear- large number of choice early here at the North is our cold rd spring weather. We use 00 young queens a year in our and have tried many times to em during the latter part of nd fore part of June, so as to hem laying about June 10; but almost impossible to rear so good queens at that season of ar. If we wait till the latter June to rear them, then the rom these queens are of but se as honey-gatherers until he best of the harvest is over. find it much better to pay con- le money each year for our instead of trying to rear them. t the first of December we gave d queen breeder our order for eens, to be sent us between the 20th of June next. It requires bees, skill, and honey to rear ueens; and when they can be t for from $65 to $75 per hun- and extracted honey is worth 7 cents per lb. by the carload, it ot pay to sacrifice much surplus er to rear queens.

Understand.

n the ordinary honey-producer ts to rear his queens he is very make some serious mistakes, through ignorance and partly h a lack of time to give this f his business the close atten- t requires.

e would procure a good breding- and rear all his queens from her, weed out and destroy all small r queens as soon as they hatch, ght have choice queens without expense except for a part of his and a certain per cent of his s. There is quite a difference nion as to the necessary amount s it requires to rear choice cells ueens. Some claim it can be with but few bees; others want colonies to produce choice I know we could never rear s that would suit us unless we so many bees in rearing our that it would make a sad inroad r surplus honey.

Cause Swarms to Degenarate.

most common and the worst ke that can be made in rearing queens is saving the natural cells and virgin queens from colonies that have cast natural swarms. I have heard this method recommended by men who were considered quite good authority, and it seemed as if I could not keep still and listen to them. We spend valuable time at our conventions in discussing various ways for preventing natural swarming, and we frequently see long articles in our journals from noted writers recommending certain methods to prevent it. Almost daily during the summer season we see bad results in our apiaries from excessive swarming, and then so many will do the very thing of all things that will perpetuate the desire to swarm, by saving seils and virgins from the colonies that are the first to swarm; and invariably when this objectionable method has been practiced a few years a strain of bees will be developed that is ready to swarm both in season and out of season. Nor is this all; for a great step backward is taken, and the bees from the first will begin to degenerate, and part of their yellow color will be lost; and the bees themselves, being crosser and more irritable, they fail to gather as much surplus, and they become more nervous in winter. In a few years the apiary will have degenerated until it is of but little value. It must then be built up again with good stock.

In view of these facts do not take such a step backward as will bring only loss, trouble, and disappointment. When a colony has many valuable traits, send its queen to your queen-breeder, and write him, describing all those good points, and request him to rear the queens from her unless he may have a still better breeding-queen. In this way the choicest of queens may be reared from the best stock and improvement can be made along the lines most desired.

As I look back I find that the seasons when we received our largest surplus have been, without a single exception, the ones following the year when we reared our queens from some special queen whose colony had given us an unusual amount of surplus the previous summer. It requires only four or five years of careful selection to make a great change in bees in their honey-gathering qualities, and in their disposition, until they seem like a different race of bees. The color is one of the quickest of all points to show improvement, and the tendency to swarm can be reduced to a surprising extent; but special care must be taken to select the best standard. Nor is this all. The drone-mothers must be just as choice as the queen-mothers. You must rear all drones from as choice queens as you rear your queens from. In other words, drones must be developed the same as the queens. This may seem like an unnecessary amount of trouble; but there is little of value in this world that does not cost labor to acquire.

There are many bee-keepers who might make great improvements in their bees if they would only start in the right way. They seem to think that, if they buy a breeding-queen once in a year or two, it is about all that is necessary; and if her colony swarms they will try to save some of the queen cells, and then think they are improving their bees. Such a line of management is no improvement; and if that is the best that can be done, then it would be better to buy all the queens from some one who is doing better. The whole subject turns on this point: The best queens, bought or home-reared, are none too good, and the aim should be to make them still better with each succeeding generation.

What is the difference between recollect and remember?

Well, I recollect lending you $5, but I don't remember ever getting it back.

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OR PAIN KILLER FOR THE HUMAN BODY
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IT HAS NO EQUAL

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We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

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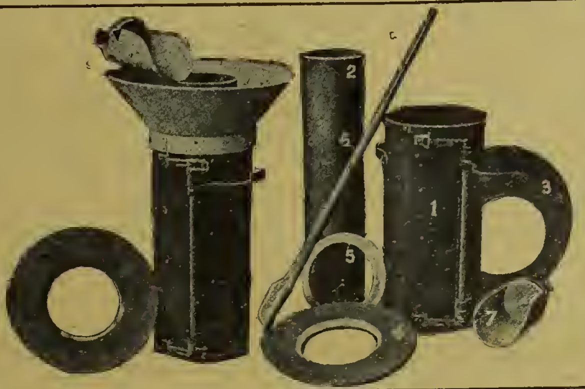

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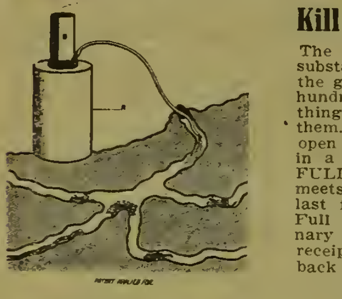

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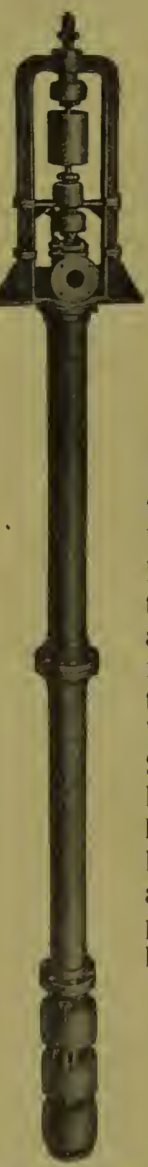

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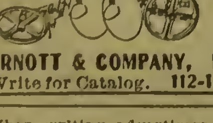

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Oil well casing prices and sizes: 2 inch, 7 cents per foot; 2½ inch, 9 cents per foot; 3 inch, 13½ cents per foot; 3¼ inch, 15 cents per foot; 3½ inch, 17 cents per foot; 4 inch, 18 cents per foot. All pipe is carefully inspected, new coupling and new thread are put on every piece, every joint is guaranteed to be first-class, serviceable pipe. This pipe is sold in any amount; small orders are given the same attention as large ones. Mail orders promptly filled. To reach the Adams Pipe Works, take car marked Pacific Boulevard, starting east on 7th St. from Broadway. All lines will transfer to East 7th St. new line. Ask conductor to let you off at Bay St., and go east half-block. Phones, A1917, Broadway 1263.

After many months of drought on the lands of Irrigation District No. 8, Imperial valley, water has now been carried across a chasm of the New River and a flow of 3000 inches is being poured upon the land.

Francis Cuttle, of the Tri-Counties Reforestation Committee, has just returned from Washington where he has appealed for funds to assist in reforesting and preserving the forests of Southern California.

More than twice the business in shipping products of San Jacinto was the result of this year's shipments over those of last year.

WHAT CAUSES HEADACHE
From October to May, Colds are the most frequent cause of Headache. LAXATIVE BROMO QUININE removes cause. E. W. Grove on box 25c

Handling and Transporting Citrus Fruits

An address before the Southern California Pathological Laboratory Instit

BY G. HAROLD POWELL.

Mr. Powell's success in suggesting remedies for the great loss in orange sh has been remarkable and calls attention to the good work which the Depart Agriculture is doing for the farmer. The following article is a short resume Powell of this work.—Ed.

I desire to summarize the work of the Bureau of Plant Industry of the U. S. Department of Agriculture, in investigating the decay in oranges while in transit from California.

The losses from decay were estimated to vary from one-half to one and a quarter million dollars annually a few years ago.

It was a loss of that amount of money to the grower and to the shipper. It was one of the leading factors in the frequent demoralization of the Eastern orange market. It gave the California orange a reputation for poor keeping quality that does not belong to it; and as the causes of the decay were not clearly understood, the responsibility for the trouble could not be fixed. It led to difficulties between the shipper, the transportation companies and the receivers.

Through the persistent appeal of Mr. J. H. Reed, of Riverside, who recognized the magnitude and complicated nature of the problem, the Department of Agriculture was induced in the winter of 1903-04 to undertake the investigation, since when it has been carried on during each succeeding shipping season.

In passing I cannot refrain from saying, that in my experience in California in the last five years, I have met many progressive men connected with the citrus fruit industry, the peers of any other class of men engaged in American agriculture. I do no one an injustice by saying that it has not been my privilege to meet a more far seeing, loyal and wholly unselfish public-spirited worker in the interest of the citrus fruit industry than Mr. J. H. Reed.

In order to conduct the investigation it has been necessary to develop an organization of scientific men who would command the confidence and could work harmoniously with the growers and shippers in California, with the transportation and cold storage interests, with the receivers in the markets, and among themselves in scientific team work.

The present staff that works on the Fruit Transportation and Storage Investigations is composed of A. V. Steubenranch in charge of Cold Storage Investigations in California; L. S. Tenny in charge of the Citrus Transportation Investigations in Florida and also in general charge of the Fruit Inspection work in New York; H. J. Eustace in charge of Fruit Storage Investigations in the central United States; S. J. Dennis in charge of the engineering problems in Transportation and Storage and G. W. Hosford and H. M. White, who are connected with the Transportation and Storage Investigations in different parts of the United States.

In this discussion I desire to summarize the results of the investigation rather than to make a detailed discussion of it, leaving the details for a report that will be issued from Washington in the near future.

The Cause.

The decay in oranges in transit from California, is due to a blue mold fungus which enters the fruit through mechanical abrasions of kinds, or other types of weakness. It is not uncom find from 5 to 50 or even 75 of the oranges injured visi most common injuries being by the clippers, by stem p gravel punctures and impro inghouse facilities. These are often the result of ignora the part of the grower and but are generally caused by of labor hiring, of fruit handli packing that place a premium quantity rather than the qua the work done. There has vast improvement in the hanc the fruit in the last few year the substitution of day-paid under competent supervisio piece-paid labor, to the picking fruit by the associations rath by each member of the asso to the simplifying of packin equipment, and to a general tion that the elimination of chanical injury of the fruit is the large problems for the cit dustry to accomplish. It is from our work this year tha are still many growers and who are either indifferent to th tion or who are finding it to an undertaking to accomplish.

Eternal Vigilance.

On the other hand, we have ant data to show that fruit handled on a large commercia without serious mechanical To accomplish this is a mat business policy, of good men eternal vigilance.

The specific investigations from the determination of m cal injury, have been conduc bring out the following points

(1.) The decay in oranges h in different ways for shipmen holding the fruit in packing in California about two weeks.

(2.) The decay in oranges h in different ways for shipment forwarded at different leng time after packing, under ven icing and pre-cooling.

(3.) The decay in oranges in different ways before and forwarded under differe tions, the decay being determ intervals during a storage fruit in common storage roo the Eastern markets.

Some Data.

There have also been accu technical data on metho pre-cooling, on the changes i perature in cars during the continental trip when shipped ventilation, icing and pre- and on the cold storage of fruits.

In the packing house exp which have been conducted in parts of Southern California fo educational effect, the oranges are free from mechanical i and are handled in a simple develop the least decay; brush creases it slightly, washing creases it still more, especially water becomes infected with t cay spores, while the mecha injured oranges develop the mum amount of decay.

or Season has No Effect.

as been shown also that there e difference in decay in or- grown in different sections, handled in a similar manner; ere is little difference in decay nges picked from the same from January to May when d with care; that the general n that the decay is less where s are cured before packing, and he fruit is particularly suscep- o decay before the trees bloom, o basis in fact.

tness in Shipping a Factor.

the shipping experiments the decay has developed while in t in the sound, carefully- ed oranges under all methods of ent, and, the greatest in the anically-injured oranges. From tandpoint of the promptness of ng after packing, the decay has sed as the time between pack- nd shipping has been length- the greatest decay occuring in nechanically-injured oranges.

ooling.

to the influence of the method ipment, the least decay has de- ed in the pre-cooled fruit load- cars in cold condition. Pre- ng is not essential to overcome , as it can be avoided by hand- the oranges carefully. It does emove the cause of decay. It retards the development of rot while the fruit is cold in the oranges that have been made susceptible by improper handling.

In the tests of the keeping quality of the fruit after arrival in market, the fruit that is free from mechanical injury keeps the best, while the greatest amount of rot develops in the oranges that have been roughly handled and mechanically injured.

Sound Fruit the Basis.

Sound fruit is, therefore, the basis for sound keeping quality while in transit, and it is the only fruit that keeps well after arrival. The oranges that are picked improperly, that are handled through complicated machinery or that are injured in any other way are the principal ones, aside from the low grades, that rot while in transit and that bring the California orange into disrepute in the markets of the country. The matter is so plain and so clearly within the grasp of those who handle the fruit, that the shipper who persistently impairs the standing of the industry by shipping fruit to market that rots, ought to be looked upon as a detriment to the business. A car of rotten fruit lessens the confidence of the buyer in every other car that is sold in the market on the same day.

Temperature Changes in Transit.

In the tests of the changes in temperature in cars while in transit, it has been found that the temperature of the fruit changes slowly. Under ventilation there may be extremes in the change in outside temperatures with relatively small change in the temperature of the fruit unless the extremes persist a long time.

Under icing, the temperature of the fruit falls relatively fast during the first few days of the trip, and a train may cover one-third of the trip across the continent before the temperature of the fruit reaches 50 degrees Fahr. The decay develops during the first of the trip while the fruit is warm, provided the oranges have been improperly handled.

In a car in which the fruit is cooled to 40 degrees Fahr. or lower before shipment, the temperature remains constant, if the car is re-iced regularly in transit.

Appreciation for Co-operation.

In closing this summary, I desire again, as I have done many times in the past, to express the appreciation of the Bureau of Plant Industry, and the grateful appreciation of all of us who have been connected with this work of the splendid co-operation of the growers, the shippers, the railroads, the cold-storage interests and the receivers in New York. This co-operation on the part of the various interests connected with the citrus fruit industry and the quick application of the results, has not only made the investigation possible, but it has been the chief source of encouragement and inspiration to those who have been officially connected with the work.

CHRYSANTHEMUMS.

Some months ago the Cultivator announced the death at North Pomona, of W. H. Marugg, often known as Billie Marugg, of the Pomona Floral Nurseries, and that his business would be conducted by his mother, Mrs. Julia A. Marugg. Mrs. Marugg is now making her first announcement for the coming season. She has a large number of plants of the famous prize winners exhibited at the Southern California flower shows. An order placed with Mrs. Marugg will secure early delivery of these choice plants.

A WORK OF ART.

A beautiful Transvaal daisy on its cover, gives a unique character to the new catalogue just issued by Howard & Smith, nurserymen, of Los Angeles. The catalogue is of ornamentals. The rose claims first place, but dahlias, cannas, chrysanthemums, phlox and a host of others are given prominent place and fullest illustrations. The illustrations are all new and original and add beauty to the work.

One lot of 50,000 sheep will be shipped to Eastern markets from Butte, Montana.

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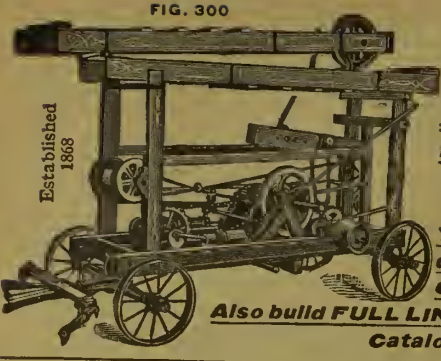

FIG. 300

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CONSERVING SOIL FERTILITY.

Continued from Page 351.

to ammonia, and are called ammoniafyers.

The next link in the chain are the nitrifyers which change the ammonia to nitric acid.

The final change is to nitrates; all due to bacteriological activity. In this process carbonic acid is liberated, which in its turn renders the potash in the soil available for plant food. All this process must have the humus as a media in which the bacteria can live.

Moisture Necessary.

Again, unless a sufficient supply of moisture is present, these processes will fail to operate. Humus in the soil helps to retain a supply of moisture, so again we fall back on this valuable material.

Culture.

It is true that culture tends to make available plant foods that are in the soil, and with good culture the natural fertility will be more quickly exhausted than without, providing no new plant foods are added, but culture also adds fertility, in that it makes useful inert matter that might otherwise be inert for centuries. Of no mean importance in this connection is the admission of air. What! do you say the air breathes?

Yes, it actually breathes in its way. With changes of temperature and moisture conditions there is secured a free circulation of air in the soil (and the bacterial activity depends upon this for its very existence), providing cultural methods are pursued that make it possible. Hence, the necessity of deep and thorough cultivation to open up the air channels.

What do we mean by culture? Well, one thing we mean is to break up the soil again into as small particles as possible, because in so doing we can greatly increase the surface of the grains and these increase their exposure to the action of water, chemical compounds and acids, and the water holding capacity of the soil.

The soil may be made up very largely of materials extremely difficult of solution, but in thus fining the soil particles, the task is accomplished to an enormous extent .

King in his book, "The Soil" gives an illustration of this, by which he shows that a marble an inch in diameter, will hold a film of water on the outer surface a little over three square inches in area. The same material ground to a diameter of one-thousandth of an inch, which is not an extremely fine grain, would yield an aggregate surface area of 3141½ square inches. "A cubic foot of soil grains having a diameter of .001 of an inch, will provide a surface for holding water, as we have seen the marble do equal to 37,700 square feet. Four feet in depth of such a soil, would possess a water-holding surface not less than 3.4 acres for each column of soil one square foot in section." An extremely thin film, therefore, on such a surface, must aggregate a large amount of water."

By culture we also mean to so break up the soil that free access of air may be gained to the soil at the lower depths. The particles of soil being separated from each other, leaves an air space in the crevices between them, and this is essential to the life of the soil bacteria.

The analytical chemist can tell us just what plant foods are fou our soils, but he cannot alwa whether it is in that form whic be available to feed the crop grown on it.

The bacteriologist can, by a of the soil, tell us if the soil are at work. He can determin what links in the chain ma missing, and the time is probal hand when he will inform us such an examination, by countin bacteria found, whether the s sour or sweet, whether by ca handling we have impregnated soil with poisonous gasses and dered it lifeless. Whether by e sive moisture we have destroye life of the soil.

In the meantime, we do not that if the soil is in a conditic grow a luxuriant cover crop.

If it is loose and friable, well t intelligently irrigated and well plied with essential plant foods f rounded ration, including an ab ant supply of humus, avoiding fertilizers which might be of dc ful charcater, (by this we refe materials that may contain injur substances, such as chlorine or cessive amounts of soda,) we sure to maintain soil fertility and tain good wood growth and fruit

GOOD WORD FOR THE COYOT

"Action of the governm through its subordinate forest serve officials and others, in operating with the stockmen for annihiliation of the coyote," s Alfred Penny, of Naches, to the kima Republic, "is in my mind rather serious matter which sho be deeply considered by the orch ists. There are two sides to ev question and I have grave dou whether the benefit to accrue from slaughtering of the coyotes can proven to be positive.

"The coyote is the natural ene of the rabbit and it is the rabbit have to fear here more than a thing else. We can guard against coyote but we can't guard ag the rabbit. At least not effectiv We know absolutely what the rab has done to the people in Aust and we know also what we have su fered from its depredations.

"We know that the coyote kee the rabbits under subjection. W know also that rabbits, unmoles and in a country where food is p tiful, especially in a climate as mi as this, multiply most rapidly. No if we kill off the coyotes what there to prevent an enormous i crease in the number of rabbits, pecially as the country, under irr tion, is yearly becoming able to s port more?

"Stockmen are practically the ones who suffer from the coy and their losses, while large in aggregrate, are not as large as generally supposed. It is a questi of the greatest good to the great number. In many sections of State now rabbit drives have to resorted to as a protection, but spite all efforts they continue to crease. The coyote, we know, wi not touch horses or horned catt and so far as the feathered flock concerned, we can protect it at ni That leaves the sheep and, in measure, they can be cared for. H can we fence against the rabbit What way is there of protecting a young orchard?

"Fruit is destined to be the paramount industry of this valley at no very distant date. We should prepare to look forward to that time now. The government, in the last report of Secretary of Agriculture Wilson, pointed out the extent of the complaints of the great damage done by rabbits, mice, rats and other field pests and of the efforts made to find some protection. Now we know that the coyote is a protection and that the good he does, by killing the pests, more than offsets his harmful side when he takes a lamb or a chicken."

eries and Replies

s to be answered in this department should be received at this office before reply is expected. Write plainly on one side of the paper and name and address. Unsigned communications receive no attention.—

Trees.

ood plan to whitewash the small peach trees? If so, d the wash be mixed and re be anything but un- e and water in the mix- E. P., Porterville.

e Mr. Mills' answer to W. partment.

rass.

rmuda grass comes into a alfa in small patches, what method to get rid of it?— h, Imperial valley.

hard one. If there is no eed in the irrigating water near to contaminate the vould plow these spots and culture to some other crop or two. But if the seed rried to those same spots r water, we would do the ble with the alfalfa until ted with the Bermuda. Once we would give clean cul- he whole field. Has any any suggestion?

like to know what is the at I cannot get my butter as hers get theirs at this time r without ice. I use wet d it all the time; the cream m 52 and up but makes no The cow was fresh 6 weeks milks an average of 13 quarts Before she was fresh I ve any bother in this way; rned the cream sweet and o difference.—J., Kerman.

nces are that this milk is down promptly enough. nd if necessary, add water he prompt creaming. Put into a stone jar or into keep it as cool as possible fore churning; if it is not ed, bring it into a room warmer. The churning is the first thing in the morn- nish the butter working as e butter is washed. I have e in Fresno, many a churn- ut ice in midsummer.—M.

s.

ately come in control of a has quite a number of persimmon trees on it and en wondering whether there g I can do that will be of them. I know that they e a crop every year for the ears, but do not think they as nice as years ago. I have them closely and do not scale on them. The ground been cultivated under them ght I would at least keep down and irrigate them while.—J. B. L.

ersimmon trees will be benefited by working in nure in the spaces between ey should have plenty of ring the time the fruit is but when the leaves begin water may be withheld.

Apples.

tell me through your paper spray apple trees with. Will kill wooly aphis when on ches of the trees?—A Sub- arpenteria.

cale, spray with sulphur and h or kerosene emulsion, ll kill the aphis. If for codling moth, spray with Paris green or arsenate, which will not affect the wooly aphis. If for scab spray with Bordeaux, which will not touch the aphis.

Whitewash for Trees.

I am planting almonds in the foothill section of the San Joaquin valley; shall use tree protectors. Would it be of any benefit or protection against insects or borers to whitewash the young trees? If so, how should it be made to answer this purpose and to adhere to the tree?—"W."

Make an ordinary whitewash and add to each five gallons a double handful of salt and a half pint of thin glue. This will stick and prevent borers and sunburn from injuring the trees.—J. W. M.

Scours.

Will you kindly tell me what to do for a calf that has looseness of the bowels? It is three months old. It has been fed on warm, sweet, skim milk, with a very little oil cake meal added; has not been overfed. The calf does not act sickly, but is very loose, discharges dark in color.—Subscriber, Fresno.

Give this calf a little rennet in its milk. Drop the oil meal or reduce the quantity one-half, using blood meal instead of the all oil meal. When scours become at all white in their character give formaldehyde, one teaspoonful in fifteen ounces of water; two or three doses usually cures the calf.—M. E. S.

Poll Evil.

Will you please tell me through the Cultivator if poll evil is curable, and which, in your judgment, is the best remedy in affecting its cure.—Subscriber.

Yes, but very tedious, owing to the many tendons in the head. In the ordinary fistula of the withers the mass can be readily cut out and promptly cured. In poll evil or fistula of the head, the best treatment we have found is to be to clean out the pus with warm water and a little oxide of hydrogen, one tablespoon to a quart of water, when the parts are clean wash the rest of the outside of the top of the head with the same wash, then inject peroxide, one part to four of warm water. Cover with gauze and put a muslin hood on the head. Change and treat the same way every day until the fistula heals from the bottom up. Two weeks' time will show you good results. Feed liberally, using half bran with the grain.

Poland-China and Berkshire.

Kindly inform me in query column as to advisibility of crossing Berkshire boar on Poland-China. I have both full blooded stock and would like to know as to the wisdom of such a step.—M.

Cross breeding is a common practice, as many breeders think this cross makes a more hardy and prolific race of hogs. It always seems a pity to cross any breed of pure bloods for its results in bringing out qualities that have been carefully bred out by great care. I should prefer every time to raise some young pigs in a more natural way on a range of alfalfa, giving them a slop of sweet

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PACIFIC COAST HEADQUARTERS for BEST SEEDS

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Baron Von Mueller, in his "Select Extra-Tropical Plants," writes of this tree:

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We have a fine lot of these trees, which you will find priced on page 73 of our 1908 catalogue, mailed free, on request.

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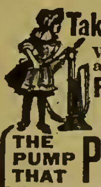
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skim milk with a little blood meal, about a teaspoon full to each pig, and enough shorts to keep them squealing at feeding time. These little sows I should expect to breed to a boar of a distinct out-cross strain of the same blood with good results. Pigs are cleanly animals, but we confine them in filth and give them dead animals to eat and then are surprised that the breed runs on our hands.—M. E. S.

Balanced Ration.

Will some one please give a balanced ration for farm horses of the following feed: Alfalfa hay, calfalfa meal and rolled barley. I'm a tenderfoot from the East, and do not know how to proportion the above. Is there anything better that would cost about the same?—W. R. P., Kerman.

Feed the horses four or more quarts of rolled barley at a meal. More, if they require it. Give them all the alfalfa hay they will eat up clean twice a day, morning and evening. Alfalfa meal is not necessary for horses as they have good teeth.

Feed for Horse.

I have a horse about six years old that it seems almost impossible to keep in good flesh. He is a sorrel of the rangy sort. I feed all the wild oat hay he will eat up clean and two quarts of rolled barley twice a day. I had his teeth filed about a month ago and it seemed to help him some, but he is still poor in flesh. He appears dull and languid. The only unfavorable symptom that I can notice is the unusual amount of wind that he passes (no unusual odor to it however,) especially when driving or drinking at the ditch he will pass wind for nearly half a minute. We drive him about nine miles every other day.—C. I. L.

This is a hard type of horse to keep in flesh. We breed away from them on the ranch. I should feed him a mixture of bran, rolled barley, with a little oil cake and sell him when he is in good condition to some one that feeds grain all the time. Wild oat hay is a very variable food, some time almost without value if composed of inferior growths and not cured without receiving rain. Perhaps when you have added a little rolled barley to the horse's feed you may find he improves so much that you will think him too good for the other man's use and keep him yourself. A little soda, baking soda, will relieve the wind in the stomach and not injure the horse's digestion.

Milk Fever.

My cow is due to calf in March. She is a Jersey and this is the third calf. Please give me some hints as to treatment so as to avoid milk fever, etc., and oblige.—D. S. W., Covina.

The recent article on milk fever answers this question most fully.

Alfalfa for Silage.

I wish to put first cutting of alfalfa into silo. Should it be run through cutter and ought it to be partly cured before putting in silo? How long before it is ready to use? Give remedy for scours in calves.—S. C., Los Angeles.

Alfalfa is run through the cutter to make it pack well in the silo. Uncut stuff in the silo is very difficult to handle at the time of feeding, as it makes the surface irregular on the top of the silage and this promotes decaying. Put the alfalfa at once into the silo; usually the teams follow the mower after half a day's time with us. This does not give the alfalfa time to wilt very much as it is raked up at once into cock to help it retain all its moisture. Silage can be used at once or it can be allowed to mould over the top and keep indefinitely.

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

For calf scours, always feed the milk warm. Add rennet as follows: Buy at the grocers or druggist a package of rennet tablets, those used for making junket will answer. Dissolve the tablets in warm water according to direction, allowing one tablet to every quart of milk to be fed. Carry the dissolved tablets down to the feeding pen and add them to the milk the last thing, to prevent its curdling before the calf can drink it.

To Keep Birds from Corn.

I noticed in your last paper a query from subscriber wanting to know what would prevent birds pulling up corn. I have a plan that I followed for a number of years in the East with success. Roll your seed corn in gas tar until it is well painted and let it dry a few hours before planting. I have found this most effective.—F. W. Noel, Dinuba.

Croppers' Share.

Please let me know through the Cultivator what is the cropper's share and the land owner's share? If cut for grain and threshed, who gets straw and pasture? This is where there is no contract.—J. S. R., Paway.

We do not think custom has established a fixed rule for division of the crop. If so, we will be glad to learn from those who may know of it. Where grain is the crop and the agreement is for the crop to be divided on a certain percentage, we should imagine the "crop" would not only include grain but straw and even pasturage, if any. It is plainly a question of agreement.

Oiling Slicker Coat.

Referring to query in regard to oiling a slicker, a friend tells me he has often done it with success, using boiled linseed oil to which is added Japan drier in proportion of tablespoonful to pint of oil.—J. C. Perry, East Highlands.

A Beautiful Shrub.

Will you not kindly inform me as to the name of the bush of which the enclosed is a sample.—A Subscriber, San Jacinto.

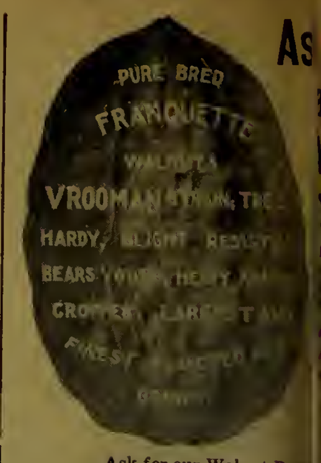
It is Cassia artemesioides, a most beautiful shrub.

Calla Bulbs.

Would be glad for an answer in "Queries and Replies" to the following:

On first page of last week's Cultivator you state that calla lily raising "has not proven a success financially." I have been told that raising the bulbs for Eastern markets is a very profitable business and had thought of going into it. What are the real facts concerning this matter of raising calla bulbs for the Eastern trade, which is claimed by some to be very profitable. In your estimation, which would bring the larger returns financially, an acre planted to strawberries or the same planted to callas for bulbs.—Subscriber, Santa Cruz.

The above was submitted to a seed grower, who at one time had ten acres of callas. After several years' experience he "broke even," paid off his help and quit. His greater returns came from dealing with local seedbuyers. Eastern shipments were sometimes disastrous. The rot which sometimes attacked the roots was also perplexing. It is impossible to say as to whether it will succeed



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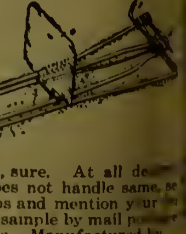

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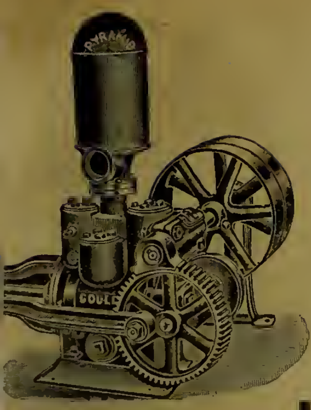

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now. It might prove a great success.

Giving a good marketing point, we would prefer the strawberry.

Curing Ripe Olives.

Would you kindly insert in a number of the "California Cultivator" a recipe for the preparation of black olives.—Subscriber, Mountain View.

This has been given many times and still the requests come. But in condensed form it is:

The successful production of pickled olives is a matter of experience and depends almost altogether on the individual judgment and skill of the producer. No method can be given which is suitable to all cases, and the best method must be modified according to the nature of the olives to be treated. The following scheme, therefore, is to be considered as mere outline to be carefully adapted and modified by the operator at each stage of the process:

Lye process: 1. Place olives in a solution composed of two ounces of Babbits potash lye to one gallon of water for four hours. Repeat this once or twice, if necessary to sufficiently remove the tartness.

2. Rinse the olives thoroughly and replace the lye solution with fresh water. Change the water twice a day until the potash has been removed from the olive, as judged by the taste.

3. Replace the water with brine composed of four ounces of salt to a gallon of water and allow to stand for two days.

4. Put in brine of six ounces of salt to a gallon for seven days.

5. Put in brine of ten ounces per gallon for two weeks.

6. Put finally into a brine containing fourteen ounces of salt to the gallon of water.

In order to make this process a success, the following considerations should be kept in view:

1. Great care should be taken not to allow the olives to come in contact with anything that will injure their flavor. The vats or other receptacles, used for pickling should be perfectly clean, odorless and tasteless. Earthenware is the best material, but it is usually cheaper and more convenient to use wooden receptacles thorughly treated with boiling water and soda until they are sterilized and all taste of the wood removed. Any wood (such as pine) with strong taste should not be used. The vats should be provided with a removable wooden grating, fastened one or two inches from the bottom, and a close-fitting, floating wooden cover to prevent access of air, which spots the fruit. On top of the vats should be placed a cover of thick cloth or of wood to exclude the light and dust. Each vat should be provided at the bottom with a wooden spigot for drawing off the solutions. The thickness of the layer of olives should not be more than two feet or less with soft varieties.

2. It is best to use good potash lye. The principal adulterant is common salt, and if salt or overripe olives are being pickled, this may be an advantage, as it keeps the fruit firm.

The Vegetable Garden

THE HOME GARDEN.

THE financial importance of the home vegetable garden is rarely appreciated, except by those who have all their vegetables to buy. Such a garden, even in its highest degree of perfection, may not bring in one cent, but it is difficult to estimate the dollars it keeps in the family purse. Its importance should be estimated from the amount saved and not from the amount made or cleared; and aside from the economy, pleasure and commendable pride that the owner derives from a well kept garden, he has the satisfaction of knowing that he is providing his family with fresh and wholesome food, lessening his drug and doctor's bills, and very probably prolonging the lives of those dependent upon him.

Our favorable soil and climate, increasing big population of cities, and better transportation facilities have made possible the development of the vegetable growing industry, whether the product is intended for home or Eastern markets. Few avocations require more intelligence and business tact than truck farming, and experience is necessary to its successful undertaking. The average man who, for the first time, engages in truck farming does not appreciate, or even recognize, the many essential details of the business, and fails in his undertaking and declares there is no money in it, or that soil or climate are unsuited, while, in the majority of cases, the real cause of failure was the man.

The capital employed may not have been sufficient for the area cultivated; the soil may not have been put into condition for producing a paying crop; fertilizatior may have been inadequate, or cultivation improper or insufficient—or, it may be that the gardener was of the opinion that his successful culture of general farm crops in the past insured his successful culture of potatoees and onions in the future. Though a truck farmer be well equipped for the undertaking, he is fortunate if he pays the expenses of the first year's operations.

The lack of appreciation of the advantages of our soil and climate, and ignorance of the requirements and hardiness of common plants, deprive many homes of fresh fall and winter vegetables. That a number of our most common vegetables will withstand our winter climate all over California and even repeated freezing is not generally understood, and the consequence is that no efiort is made to grow them. We may grow many garden crops throughout all seasons, and radishes, may, in many sections, be sown with profit each month in the year.—Home Seeker and Investor.

POTATO BLIGHT.

Worse than the Colorado beetle is the late blight. All things considered this is the worst enemy of the potato grower.

There is much discussion about treatment for cure and prevention. If nothing is done, the result is very discouraging. A flourishing, promising crop may be smitten in a day, and the yield reduced one-half.

Experiments at the various State stations and by progressive growers in other places, all indicate a great benefit from the Bordeaux spray. It cannot yet be said to completely control and eradicate the disease, but it certainly lessens its ravages. It is possible that further experience with some improvements in preparation and use will result in more real success.

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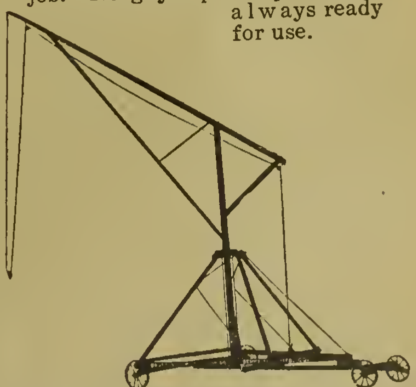

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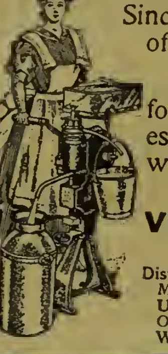

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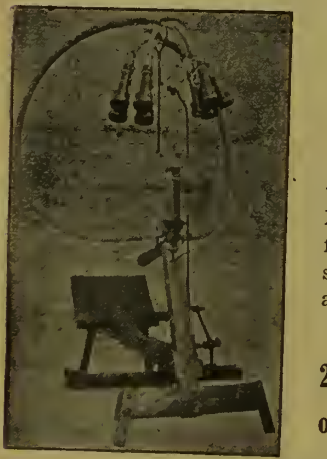

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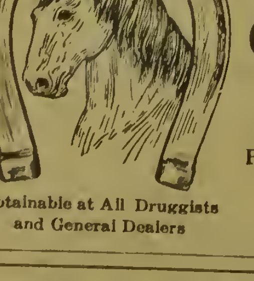

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SPRING AT THE RANCH.

SPRING once more is here in its fullest beauty. The winter slipped away gently and in a day came the surprise of the freshness of spring. The almond trees burst out into a snowy cloud, we held our breath at the renewal of the miracle of beauty, then the plums and now the peaches are making the orchard full of gay pink blossoms. The sweetness of budding life and of new turned earth is everywhere. The plows move down the rows of the orchards and vineyards followed by the black birds that eagerly search the newly turned soil for insects. The old daddy bird wears his clerical suit of shining black proudly; very like a minister he looks, while the meek little wife follows behind in a shabby suit of rusty black to carry out the illusion.

Spring in California is glorified by the wild flowers daintily growing amongst the bright green grass. The wild flowers are passing rapidly. They will soon be only a legend in the great valley of the San Joaquin. The constant cultivation of the orchards and vineyards are driving them away from the better lands and only in obscure nooks and corners are they to be found in their unrivaled lovliness. The unplowed lands of the vineyards and orchards are gay at present with poppies and cowslip, the survivors of the wild flowers that still remain, of the myriads that used to adorn the ranch in the bridal beauty of the springtime.

Alfilaria.

The cows are rejoicing in the alfilaria and in the rich high flavored young foxtail. These two grasses are particularly appetizing after the long time on alfalfa. I have had cows that made 16 pounds of butter a week on 'filaria. The alflilaria seems to be a wild plant that does not do well in cultivation. Foxtail, like the poor, thrives everywhere that man's hand touches the soil. When a plant has this great persistency it is worthy of systematic cultivation. The foxtail needs only to be civilized into laying aside its offensive weapons of barbs to make it very valuable as a winter feeding plant. The breeding out of these barbs would be a small matter compared with some of Mr. Burbank's work, for if the foxtails are carefully examined it will be found that many seeds do not have the sharp barbs. These plants are, of course, constantly supressed by the more protected seeds from increasing rapidly. The seeds from plants growing on rich soil are not nearly as sharply armored as those from the poorer soils.

Green Feed.

The problem that confronts the dairyman is of providing a green crop of feed for the cows in the late fall and early winter without a silo; this can be done with a fair degree of success. Rye should be sown on some of the lighter poorer land, the land laying above the irrigation ditches will answer very well as the crop depends on the winter rains to mature. On the ranch one seeding gives us three crops, as it will volunteer twice from one sowing. The rye starts to growing with t rains; as soon as it is six incl the cows can be turned into couple of hours daily. Tak off as soon as they stop gra tramping will waste the feed a couple of months of pa the rye is allowed to grow mature. When the fall co pigs are turned in on it to when it is all tramped down can be run over it or it can be left alone if the soil is of nature. There is only one tion necessary in grazing rye is, stop when it blooms. forms in the grains often if th son is at all damp. Ergot good for any breeding stock must be looked out for car How early ergot is formed, I d know, but have been told it start with the bloom forming kernel of the grain grows. is often fed to the cows, but makers are prejudiced against ing to the twang it sometime parts to the milk.

Alfalfa Fields.

The alfalfa fields are sav longer usefulness by not pas them during the rainy season tramping of the cows on the land compacts the soil and re it unable to absorb the rain. Th falfa fields should be disked an without stock on them during rainy time. If the land has heavily pastured try putting hundred to a thousand pound gypsum on each acre. Put the sum on in the fall before the rains, then disc in February and the thin spots. Cut the first crops on a re-sowed alfalfa field keep the cows in the corrals the roots are strong. The con tramping of cows is mischievo a careful man can save the bringing the cows in as soon begin to lie down to ruminate. nal tramping is an excellent make a turnpike, but a poor keep the alfalfa field growing ly.

Corn Fields.

The present seasonable work preparing the land for Indian The land is plowed with the ton gang plow and then har and then plowed with the plows going two inches deeper the gang plows. The harrow again run over the land to ma more compact after the stirring. furrows for the corn are run the land and then the plow coming back in the same fu The corn is planted three or grains every three or four feet like to soak the corn over nigh have it moist so it will start growth at once. The placing of the deep in the furrow has two fe to recommend it. The corn tected from cold winds when it sprouts and then later the roo deeper in the ground than if it wa sown on the even surface. th corn grows the cultivation graduall fills the furrows until the land comparatively level. When the corn is about three feet high, a furrow made between every other row an the corn well irrigated and then cultivated. Again, when the corn is in tassel the furrows are run on the alternate rows from the first irrigation well watered, once more cultivated and then left to grow until harvested.
—M. E. Sherman.

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JUST PUBLISHED.

A valuable book "Production and Handling of Clean Milk," by Kenelm Winslow, M. D., M. D. V., B. A. S., of the Veterinary School of Harvard University, the author of several veterinary books, has just reached the review table and we find it one of the most valuable books for dairymen who would produce clean milk, which we have seen. It is complete, plain, practical and authoritative guide to the production and distribution of clean milk for farmers, health officers, milk inspectors, students of agriculture and dairying, country gentlemen, physicians and others interested in matters pertaining to dairying and hygiene.

While the work is scientific or exact, it is written essentially for the intelligent layman. The writer has had perhaps unusual facilities for studying all sides of his subject, being a practicing physician, a graduate of a medical, veterinary and agricultural school, and he has had practical experience with animals and with the production and distribution of certified milk, and he has also been an official in charge of a laboratory having supervision over the milk supply of a large city.

In the preface of the book we note: "When the public is sufficiently aroused to the evils of consuming unclean milk and evinces willingness to pay for clean milk, there will be no difficulty about its production. It is merely a question of supply and demand.

"It is not generally known that the farmer sometimes receives but one-quarter of the retail price of milk (frequently but two cents a quart) and he can hardlly be expected to undertake a considerably increased expenditure for the production of clean milk—this being the case.

"There is probably more interest being shown in this and other countries in a pure milk supply than ever before. For this reason it should be a comparatively easy task for any individual desiring to produce clean milk in any considerable community to find a sufficient patronage, particularly if the local medical profession is asked to assist, always providing that the proper standard is constantly and conscientiously maintained. The idea of financial return must be subordinated to this, and yet a reasonable profit can and must be had to sustain the required standard.

"The aim of this book is to provide a working guide for those pursuing or wishing to pursue one of the most wholesome and laudable undertakings—the production of clean milk."

In the book are nine chapters and a valuable appendix with plans of barns, milk houses, general outlines and a scheme for the control, supervision and inspection of milk supply. The nine chapters treat on "Germs in Their Relation to Milk;" "Composition of Milk and Cream and Their Products;" "Milk Products;" "Feeding for Milk;" "Housing and Care of Cows;" "Handling of Milk and Cream;" "Cost of Producing and Distributing Clean Milk;" "Some Hints Concerning Milk Distribution" and "Milk Inspection."

From the chapter "Feeding for Milk" we quote: "In feeding cows for milk, the most essential fact to grasp is that the composition of milk cannot be altered to any extent by feeding. The solids may be increased slightly by a food very rich in protein, or, on the other hand, the solids may be lessened, if her diet

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MOTOR POWER ON THE FARM.

Rev. J. D. Detrich is credited in the American Agriculturist with having kept 26 head of cows, two horses and several pigs on 15 acres of land.

The way he succeeded in doing this, he says, was primarily by using machinery, never allowing a man to do anything which a horse or machine can do. He sold the 15-acre farm and bought a larger one, and on this new farm put his labor saving theory into full play. He has an electric power installed on the farm and has a motor to cut all the hay, fodder, straw, etc., which is used. The motor is also used to unload the hay from the wagons and put it into the mows. He uses something which he calls slings on the wagons, two of them holding a load for a two-horse wagon. When driven into the barn, the motor is connected with a set of pulleys and ropes which take up first one sling and unload it and then the other, so that the whole load is taken from the wagon at two trips of the carrier and in almost as short a time as it takes to describe it the whole load is in the mows.

The advantage claimed for this motor is the saving it effects in labor, and in these days of scarcity of manual labor and high wages, everything which will cut down the price of raising crops is to be carefully considered by the farmer.

In the San Joaquin valley recently we saw in machine is designed to do the work of a steam operation a machine called a "farmobile." This plow, or rather, of a traction engine, which can be used for plowing, harrowing, seeding, etc. Such engines are so heavy that they cannot be used on some farms to advantage because they will not run on soft ground without sinking in too deep. Attempts to adopt the automobile to plowing have not been very successful because the wheels would not grip the soil enough to pull the plows unless the machine was made too heavy for other purposes. In the farmobile this has been remedied by having the car pulled by a cable which passes around a drum on the car and is wound around other drums at each end of the field, which are operated by a four-cylinder gasoline engine. Although the machine only weighs about 2500 pounds, yet owing to the unique method of propulsion, it is capable of pulling two gang plows which can turn over twenty acres a day, and will also seed and harow it at the same time. All machinery of this character makes it possible for the farmer to cultivate larger tracts of land with much less help than was the case formerly.

PASSING OF THE MEADOW LARK.

There is well grounded fear that the best known song bird in California, with the possible exception of the mocking bird, will soon be extinct. Somehow an impression has gotten out among the farmers, that he devestates crops. This is a serious mistake. Instead of being an enemy to the farmer he is one of the most valued of his friends. Last winter an effort was made by certain members of the legislature to remove this popular bird from the protected list on the ground before mentioned. However, the mere mention of such a thing showed how popular the bird is, for a cry of consternation at the very idea went up over the whole State, and he still remains upon the protected list. Our members of the legislature have not always shown judgment in regard to the protection of our birds, but it is to be hoped that they will never make so serious a mistake as to remove the Western meadow lark from State protection. It would be a mistake dearly paid for, since these birds are among our most beneficial ones. Farmers' Bulletin No. 4 written by F. E. L. Beal., assistant ornithologist, Biological Survey, sent out by the United States Department of Agriculture, has to say of this bird: "The meadow lark is almost wholly beneficial although a few complaints have been made that it pulls sprouting grain, and one farmer claims it eats clover seed. As a rule, however, it is looked upon with favor and is not disturbed. In the 238 stomachs examined, animal food (practically all insects constituted 73 per cent of the contents, and vegetable matter 27 per cent. As would naturally be supposed, the insects were ground species, such as beetles, bugs, grasshoppers and caterpillars, with a few flies, wasps and spiders. A number of stomachs were taken from birds that had been killed when the ground was covered with snow, but still they contained a large percentage of insects, showing the birds' skill in finding proper food under adverse circumstances." Again: "Briefly stated, more than half of the meadow lark's food consists of harmful insects; its vegetable food is composed either of noxious weeds or waste grain, and the remainder is made up of useful beetles or neutral insects and spiders. There is one danger to which the meadow lark is exposed. As its flesh is highly esteemed, the bird is often shot for the table, but it is entitled to all possible protection, and to slaughter it for gain is the least profitable way to utilize a valuable species."

We would here call the attention of all lovers of California song birds to the importance of looking after the welware of the meadow lark with renewed vigilance. Killing this bird for its flesh is quite common and it should be stopped. At the rate the bird is diminishing but a few years will elapse before it will cease to exist. Anyone who would kill a meadow lark for its flesh ought to be punished by arrest and heavy fine. The attention of the Audubon Society and all lovers of our song birds is directed to the protection of this popular and beneficial song bird.

WRITE US FOR INFORMATION

In the Cultivator of March 5th, was an advertisement for the Callenox Sprayer Company of New York City. From reports made to us in regard to this company, we are not satisfied as to its standing. Before forwarding any money to this concern or to the Lenox Sprayer pany, we advise writing this office for informa The Cultivator desires in all cases to protec patrons against any and all possible oppor ties for loss through any advertisements ap ing in its columns.

THE WHITTIER FARMERS INSTITUT

Continued from Page 347.

the rains to cease, but do your spraying betw showers.

Celery and Onions.

Mr. Murdock urged as an important feat celery growing the securing of good seed. oughly prepare the ground, always in moist tricts, and never let the ground dry out. K free from weeds and cut back when about weeks old to make a strong stock. Plant a four feet apart in order to be able to cult thoroughly.

When Mr. Murdock reached the part in his dress referring to onion culture, he drew from pocket a copy of the California Cultivator, told the audience that in this paper was speech. He recapitulated what he had writte the Cultivator on onion growing and advised t interested to send for the copy containing his ticle.

Plant Lice.

Always interesting when discussing entomol cal topics, Prof. Woodworth was especially h in his treatment of Plant Lice. His time principally taken with a description of the ha of the destructive cabbage aphis. This. pest easily killed by spraying, but it needs immed treatment. When cabbage is not at hand, the p feeds on mustard and wild radish. Spraying w the garden hose will kill it, soapsuds will dest it, but spraying must be done when it first a pears.

Prof. Woodworth recommended: first to pr vent by destroying the things the aphis fee upon, which he mentioned as mustard and wi radish. Second to spray with any well-kn plant louse exterminator like kerosene emuls Prof. Woodruff presented as an object lesson, fro which to demonstrate, a plaster cast of the c bage aphis magnified 100,000,000 times. It wa frightfully uncanny object to look upon, but had the effect of causing his audience to "th the Lord" that it preys on vegetable life and on human bodies. After describing the char teristics of this aphis, Prof. Woodworth proceed in his lecture to urge a certain course of proce ure to rid plants of this destroyer. In brief th were, (1) prevent, by removing out of the way the aphis any plant it feeds upon. And (2) stroy the insect by thorough spraying.

In concluding the lecture it was urged that ery grower should be prepared to defend the of his plants by having at all times the mean command to extrminate their enemies. control demands coöperation of all growers keeping the fields clear of mustard, wild rad any other substance the insect feeds upon. ciations should secure inspectors and when prised of the appearance of the aphis, should s on a moment's notice. Damage comes in wai not by treatment of the plants.

Prof. Ralph Smith.

The experiment station, what it is doing the State agriculturally, and what the State ou to do for it; the efficiency of the Whittier tion under Prof. Smith, and what he has ac plished in the brief period he has been in ch was discussed by the editor of the Cultivator, Hon. P. F. Cogswell, the latter speaking most i terestingly. Prof. Wickson also responded calls, and, in a strong address, pointed out usefulness of the experiment station and the agricultural farm at Davisville, and what the may reasonably anticipate from these agencie future.

Continued on Page 368.

The date for the State convention at Riverside has been definitely settled after one or two changes, and will be held on the original dates. April 28, 29, 30 and May 1. One of the best program ever presented at such convention is, promised. The Cultivator has a letter from a fruit grower 600 miles north of Riverside, in which he says he will be present.

gricultural Notes of the Pacific Coast

Northern California

hico has a good roads campaign

he date set for the Santa Rosa carnival is May 15th and 16th.

he Haywood pickle factory uses ,000 pounds of cabbage weekly for rkraut.

armers near Gridley will plant gely of cucumbers for the Hayward kle factory.

he Asti Italian Swiss colony is reasing its vineyard plantings by acres this year.

roville contemplates an election the question of $80,000 bonds for structing levees.

ne gardener will plant over 200 es of potatoes, cabbage and tomas near Yuba City.

an Rafael is taking steps to prot the deer which inhabit the slopes Mount Tamalpais.

The growing of barley has practilly driven the wheat industry out the Sacramento valley.

A preliminary survey of the Sacraento river as far north as the eather has been ordered.

Trees are being planted along the vees near Marysville to make them ronger against the floods.

The cannery at Santa Rosa has en receiving many carloads of cans ady for the coming season.

Fruit growers at Winters have filed ticles of incorporation of the Wins Fruit Growers' Association.

The precipitation at Yuba City to te amounts to 13.45 inches. Last ar for the entire season, 21.34.

A vast number of resistant vines e being planted for experimental rposes on the Davis State Farm.

Northern California has a strong mmittee at Washington to urge e passage of the Newlands Bill.

Oroville is having a pure milk gitation and some dairymen are rotesting at the over-strict regulaions.

Hops have been sold in the Sacramento valley in the last few weeks at ess than half the cost of actual proluction.

A big reclamation project is uner way which will bring under culivation a large tract of land below he city of Marysville.

Many farmers at Ukiah contemplate plowing up their hop yards and establishing a cannery for putting up asparagus, tomatoes and beans.

The Department of Agriculture is distributing several small sacks of cotton seed to growers near Biggs, and it will be used for experimental plantings.

The Sonoma County Hop Growers' Association has adopted resolutions opposing the prohibition movement on the ground that it will injure the hop business.

Sutter county fruit growers are making an energetic fight against the pear blight, and the county Horticultural Commission has adopted resolutions requiring all orchardists to prune closely.

Percy T. Morgan, of the California Wine Makers' Association, is appealing that there should be no tax or license imposed upon the juice of the grape any more than there is upon the juice of the apple.

Central California

Large plantings of Valencias are being made at Lindsay.

Lindsay has had a rainfall slightly in excess of 10 inches.

An aged Chinaman near Exeter is producing an "odorless" onion.

A fine flowing artesian well was recently struck at San Jacinto.

Central California reports that extremely warm weather prevailed last week.

Prof. Wickson recently made an inspection of the Tulare Experiment Station.

One orchardist at Lindsay will put in 100 acres of citrus fruit, largely Valencias.

Many sections of Tulare and Fresno counties are hoping for a better road system.

Oakwood farm, near Los Gatos, has been purchased by Odd Fellows for a $200,000 home.

Watsonville is ornamenting the school grounds with a number of trees and plants.

The Health Board of San Jose is so active that an occasional dairyman loses his license.

Between 1500 and 2000 acres of orange groves have been planted this season at Lindsay.

A number of Los Angeles moneyed people are investigating Lindsay fruit prospects with the idea of investing.

The grangers of San Jose have endorsed the Highway Bill which is now before the National Congress.

The Pioneer Eucalyptus Company have filed articles of incorporation with the county clerk of Stanislaus county.

Winter grown peas from the Redbanks section near Porterville command 15 cents per pound in San Francisco.

The fine weather with the moist ground of the orchards, has made busy times for the orchardists of Valley View.

The total number of cars oranges from Lindsay during 1906 was 755, while this year up to the present there have been 840.

Raisin growers of Tulare and Fresno counties are pooling their holdover crops hoping to realize better prices than are now offered.

Spreckles Sugar Company has conceded many points demanded by the farmers, and many about San Juan will plant extensively this season.

Business men of San Jose are after the State Forestry Commission with hot shot. Personal appeals have been made to President Roosevelt, and every possible step taken to stop the destruction of trees.

Entomologist Morris of Santa Clara county is urging the establishing of an annual bird day. The idea is to create sentiment in favor of the birds which are doing so much to help the farmer in eradicating insect pests.

The Tulare County Horticultural Commission reports: "We find very little scale in either deciduous or citrus orchards; in fact we have but one place left to fight and that is in the towns on trees in yards. This we hope to wipe out this coming summer."

Southern California

The beet crop of peatlands is promising exceptionally well.

Tobacco growing has proved successful in the Perris valley.

Some early shipments of Coachella asparagus realized $1.00 per pound.

Imperial valley claims an output of $1,170,500 worth of products in 1906.

Eight thousand men will be needed to harvest the cantaloupe crop of Imperial valley.

Savage cattle on the range attacked a man at Lancaster and nearly killed him last week.

Five cents a pound is promised for the early shipments of onions from Coachella valley.

The grapefruit is proving more popular with orchardists of Southern California than formerly.

Imperial farmers are experimenting with the machine for setting plants, such as cabbage, tomatoes, etc.

Celery growers have proved conclusively this season that spraying is an effective remedy for the blight.

The Santa Ana Register says that there will be a liberal extension of the field of celery culture this season.

A great farmers' institute was held at Whittier last week, at which time the Pathological Laboratory was dedicated.

Bee inspector Quincy of San Diego county has asked for deputies to assist him in exterminating foul brood, which has become prevalent.

"The Jim Mills Circus" is the name given to some new wagons which have just been constructed at Riverside for the hauling of oranges.

The January pool of the San Bernardino County Fruit Exchange is showing more favorable returns to the growers than at first anticipated.

The California Fruit Growers' Exchange has opened an extensive advertising campaign thus far having centered their energies on the State of Iowa.

With over 200 or more cars daily, orange shippers are appealing for a little more caution in dumping too great a quantity at a time on the market.

The acreage of chilis in Orange county will be greatly reduced this year. The prices have not been entirely satisfactory to growers for the last two years.

County Horticultural Commissioner Pease of San Bernardino county reports that persistent efforts have been made to smuggle trees and vines into that county from infested districts.

The Imperial valley has been somewhat concerned over the introduction of grape vines from other sections without proper inspection, and one prominent party has been arrested.

The improved methods of packing oranges at Riverside have attracted the attention of the Eastern markets in a way that will compel all packing of oranges to be done more carefully in the future.

The annual meeting of the Santa Paula Walnut Growers' Association was held recently and the following officers and directors elected: G. W. Faulkner, president; J. H. Orcutt, vice-president; C. Thorpe, secretary; C. J. Cleveland, F. E. Good.

The Coast

Castle Rock, Washington, is to have a new cannery.

At least a million fruit trees have been planted in Yakima this year.

Farmers of Colorado are complaining of shortage of farm hands.

Over 1,000 colonists entered the city of Spokane within 24 hours on March 9th.

California orange market at Portland, Oregon, is very firm for good stock.

The wheat fields of Condon, Washington, are covered with six inches of snow.

Stock has been subscribed for a co-operative cannery at Independence, Oregon.

Floods near Portland, Oregon, have done much damage in many fruit sections.

Large quantities of hops have been exported from Portland within the last two weeks.

The State Grange of Oregon will meet at Eugene the second Tuesday in May.

Coos county, Oregon, is expecting the early establishment of a milk condensing plant.

Idaho legislature is contemplating irrigation systems which will cover 2,000,000 acres of arid land.

Wonderful development is being given to Pecos valley in New Mexico.

Many sheep and goats have been killed by worthless dogs in Linn county, Oregon.

The Oregon crop of onions is practically exhausted, and Japanese product is being imported for shipment to Alaska.

Much interest is created over the southern part of Oregon by the suit against the Harriman lines for valuable lands covered with timber.

Lane county, Washington, fruit growers recently held a most interesting session, at which the coming season's work of the association was discussed.

The hop market does not seem to be so much in the dumps as a few months ago, in Oregon, as a few buyers have appeared and taken up some of the surplus.

Goat shearing is in full swing in the Willamette Valley. The usual methods of disposing of the hair will be at auction in pools made up of the various producers:

Spokane will observe Arbor Day on April 18th. It is estimated that on that day there will be between 40,000 and 45,000 men, women and school children planting trees.

Farmers in Colorado are declining to sign contracts with beet growers, claiming they are so unjust that it is impossible to grow beets under the various restrictions.

Farmers at Queen Creek in the vicinity of Mesa, Arizona, have formed a company to construct a new reservoir which will irrigate thousands of acres of dry land.

Colorado beet growers are making emphatic protest against the price which sugar manufacturers have agreed to pay and are now making a demand for a flat $5.00 per ton rate.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

Eggs for Hatching

From Carefully selected purebred stock of

White Minorcas **White Leghorns**
Buff Orpingtons **Aylesbury Ducks**

For full particulars and prices on eggs and incubator chicks apply to

Coulson Poultry & Stock Food Co.
Petaluma, Cal.

Beef Scraps

GUARANTEED ANALYSIS:
Protein 65%
Fat 8%

Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps. No fertilizer ingredients in **these** Beef Scraps.

Raw Bone

GUARANTEED ANALYSIS:
Protein 25%
Phosphates 45%

Made of Clean Beef Bones, surplus fat removed. Cleanest Raw Bone on the Market.

Pure, Clean Animal Matter Poultry Foods

WESTERN MEAT COMPANY 6th & Townsend Sts.,
SAN FRANCISCO CAL.

Baby Chicks and Hatching Eggs

Thousands of Chicks of all varieties hatching every week. Buy your Chicks and Eggs here and save money. We can sell you thoroughbred eggs of any variety for less than you can get them anywhere. All eggs guaranteed. Send or phone for price list.

Pioneer Hatchery Co.
711 So. Main St., Los Angeles

Main 5651 F 1635

Profit in the Poultry Yar

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

TIME IS MONEY.

We need a year to grow a pig,
'Tis two before a steer is big,
The hens lay every day.

Alfalfa takes three years to spread,
A horse as colt four years we feed.
The hens lay every day.

A field of grain just once we reap,
A yearly fleece take off our sheep,
The hen lays every day.

A few weeks yield the honey store,
Then blossom, fruit and all are o'er.
Then hens lay every day.

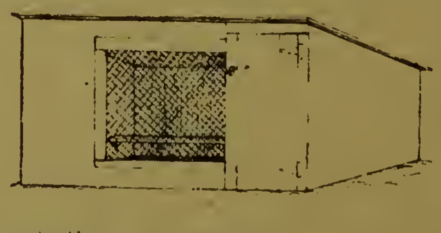
For other things, too long we wait,
Our life is short, and pay day late.
The hens lay every day.
—Farming World.

WEANING CHICKS.

AS WE said in our last article, the first few weeks is the critical time for chicks. But we do not want to give the impression that we can leave chicks to shift for themselves after they are four or five weeks old. The first three weeks in the chick's life may be considered the critical period, and we have heard people say that if they get their chicks through the first three weeks they could raise them to maturity. Yet we have seen flocks of chicks that grew finely until they were weaned, then they seemed to stop growing. The main reason for this is often lack of heat; while chicks are with the hens or in the brooder there is not much danger of lack of heat, but where the hen weans hem or they are placed in the cold brooder, we must make sure they don't suffer for want of heat. With the climate of the Pacific Coast at this season they may not need any artificial heat after the hen has weaned them, but they should have a nice, warm, comfortable coop to roost in.

Coops for Chicks after They are Weaned.

Most everyone has some special design for coop, which perhaps are as good or better than any we can suggest. The main thing to be remembered in coop construction is to make one that is secure when closed at night. Many prefer to let their chicks roost in open coops with no protection from rats, cats and other varmints. We believe that it will pay to put a wire front in coops for protection. The wire may cover part or the whole of front of coop. The illustration given here is of what we consider one of the best coops for growing chicks. It can be built with or without bottom. One thing to be considered in any style of coop, that the air space is much less in a coop than in a house, therefore, one should be careful not to crowd.



Dimensions and Capacity.

A coop to hold 25 chicks should be about five feet long, three feet wide and three feet high in front and about two feet at back. As the chicks near maturity they should have larger quarters, or flocks divided, as 25 adult birds are far too many for a coop this size.

Of course, it is not absolutely n essary to have such coops, as a box or barrel can be used, but oft these coops will save enough to for themselves the first year.

Teaching the Chicks to Roost.

This is one of the difficult pro lems with many, but we were ne troubled much in getting our chic to take to the perch. But they shou be watched that they don't crowd i to a corner. If good, wide roos are used, say a board six inches 10 inches wide for roosts there is n much danger that they will learn roost too young. A good method teaching them to roost is a slat bo tom to our coop. If that is use they cannot crowd and will natura ly take to roost, which should b placed only about four inches to si inches above slats, where they ha learned to get on perch; the slat bottom can be removed and used in another coop.

Feed and Forage.

Chicks after weaned should be fed much the same as before; they should have a variety of grain which can be fed in hoppers or i troughs. They should never get very hungry. If we have range o alfalfa to turn them on part of the day, they will do much better. I winter eggs are wanted keep the chicks growing, as the birds that mature early, as a rule, are the ones to start to lay first.

AROUND THE YARDS.

Get your chicks out early.

* * *

Milk is good for growing stock.

* * *

Many a brood of fine chicks has been sacraficed by neglect.

* * *

Broilers shrink about one-half pound each when dressed.

* * *

Don't neglect a sick bird; prompt attention will often keep diseas from spreading in the flock.

* * *

One man being asked how he fed to grow such fine chickens and get so many eggs, said he had no set rul but gave the fowls a little of everything they like.

* * *

Grit is the chickens' teeth. Goo mastication means good digestion, good digestion means perfect assimilation of food. All poultry, to thrive, must have this.

* * *

"Oh, give us the old-time hen!"
Wailed the wheezy minstrel man.
And a cherub up in the gallery cried,
As he tossed an egg with a chick inside,
"We'll give you as old as we can."

* * *

Barnyard Rooster (meeting a stray little chick): "Well, my son, what is the matter?"

"I'm an orphan."

"An orphan?"

"Yes, our incubator just burned up."

* * *

Preserving Green Feed.

Is there any way of cutting and curing green barley and wheat hay so as to have green feed for hens

ng of
Hen.
n is contented
When she sings
to lay. When she
rly she pays a profit.
contented, sings and
ily egg almost as regu-
e day comes round
eceives a little of

. HESS
oultry
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S.). It does not take the
he regular ration, but
e tonic elements which
ation *available*. It aids
makes rich red blood
ns nitrates to cleanse
. Poultry Pan-a-ce-a is
nicide and largely pre-
se. Endorsed by the
horities of the country

a written guarantee.
s worth a day is suffi-
irty hens.
s. 35c.; 5 lbs. 85c.;
1.75; 25 lb. pail $3.50.
nts for Dr. Hess forty-eight
Book, free.
CLARK, Ashland, Ohio.
use Killer Kills Lice.
UMA INCUBATOR CO.,
L. Pacific Coast Distributers.

White Leghorns
The Kind
That Pays

reeding birds I each year select
of my handsomest, earliest de-
ullets and trap nest them dur-
entire first laying year. The
son from these I select only
ing satisfactory laying records.
eeding pens are only hens of
rth in their second and third
d no bird that has ever shown
of disease. Each pen mated
s to one handsome cock. I be-
e is not in California a hand-
better lot of birds and few as
n furnish eggs for hatching
e birds at $1.50 for 15, $7.50 per
per 1000. Let me book your

dence solicited.

S. E. Gregg
Adams St. Riverside, Cal.

Imported
sbury Ducks

rs at Crystal Palace and
ading shows in England.
t the State Fair, San Jose
and Oakland, 1906.
tate Fair and San Jose, 1907.
for sale and Eggs in season.

icent G. Huntley
Petaluma, California
eeder of Buff and Black Orpingtons
and Barred Plymouth Rocks.

dwin's White Leghorns
izes San Jose '06, and State Fair '07
e 1sts and special, San Jose, '07.
, three 2nds and $50 Cup best display
Petaluma '07.
or free '08 Catalogue and price list.
Frank E. Baldwin
ington Ave. - San Jose, Cal.

HOMERS
Prolific Breeders
Winner of 1st pen at Breeders' Show
Satisfaction Guaranteed
C. E. Bunker
San Jacinto, Cal.

Wyandottes Exclusively
, Typical Birds. Stock and Eggs For Sale.
W. A. SEYMOUR
udry Ave. Los Angeles Cal.

through summer; hay now is eight inches in length. Alfalfa can be put up and why not this hay.—W. C. D.

We have never had any experience in curing barley and wheat hay as you speak of, but we see no reason why it could not be done. We have taken clover and lawn clippings and cured it and when we were ready to feed it we would cut it up and pour warm water over same. This would give it a flavor almost the same as fresh clippings. But whether or not this would work the same with wheat and barley, we are unable to say. But we would like to have you try same and send the Cultivator the results, as we know many of our readers will be interested.

* * *

Feather Eating.

Is there any reliable cure for confirmed feather eating hens. These pick each other's feathers until they are quite bare. If there is anything that will cure the habit, it will be a great help to us. The Cultivator is indispensable.—Mrs. O., Escondido.

Feather pulling is generally caused by improper food and birds being too closely confined. If you feed a narrow ration, and don't feed animal matter, your birds will crave animal food and often this will lead to feather eating. Again we have known wet or feather lice to cause trouble; they irritate the bird which causes them to pick at feathers until habit is formed.

We don't know of the remedy you mention, but if you will get a bottle of chloro-naptholeum and spray your birds using one part water to one of chloro-naptholeum, we think you will have no further trouble. After spraying or dipping we would change feed. Either feeding in a litter or feeding a well balanced ration with plenty of animal food, you will have no further trouble.

* * *

Dirty Eggs.

Will you please let me know through your Cultivator whether duck eggs will hatch as well when you wash them off, as if not washed off? They get them so dirty laying them around the muddy water.—A Cultivator Reader, Lodi.

We would not wash duck eggs if they only had dirt on them, as dirt is porous. The eggs can be wiped off with a dry cloth. However, if the eggs have anything on them that is gummy, or if an egg has been broken on them, we would wash it off as broken egg fills up the pores which will prevent the egg from hatching.

THE EFFICACY OF DUST BATHS.

The natural way by which fowls cleanse their bodies and keep them free from lice and mites is by means of dust baths. In providing these baths, it is well to bear in mind the specific points which prompt their use. While exercise is an important thing provided by the baths, the main good they do is to relieve the birds from lice and mites, which would otherwise make their lives miserable. The birds roll and scratch and fluff their feathers until the fine dust is thoroughly worked through their plumage and down to the skin. The insects referred to breathe through pores in their bodies and the fine particles of dust close these up and the vermin die.

It will be seen, therefore, that the dust bath must be composed of very fine dust to be effective. The dryer and finer it is the better the fowls will like it and the more good it will do them. Some people mix fine screened coal or wood ashes with road dust and think that the combination is better than either one alone. A little tobacco dust mixed with the thing, aids in exterminating vermin.—Agricultural Epitomist.

Feed the Chicks and Kill the Gophers

West Coast Chick Feed

A full, rightly balanced ration for the little ones, to be fed dry. All pure feed, no filler, no waste. The biggest seller because the best made. Keeps them growing and healthy. For sale by many dealers; if not by yours send direct to us.

Bille's Gopher Poison

is most attractive to gophers, squirrels, etc., but sure death. Endorsed by Agricultural Colleges and Experiment Stations. Has had the greatest success for years in the Middle West, and also here in California last season. Circular with many testimonials and Affidavit of 201 killed in one day. If your dealer hasn't it, send $2.50 for two bottles, (not less than two) express prepaid by us. Money refunded if not as represented—so printed on the bottle.

WEST COAST MILL
818-826 San Fernando St. (Through to Alameda) Los Angeles, Cal.

5,000 MEN OUT OF WORK

Can feed a few hens on the scraps from the table and have eggs for the family every day in the year—but

Little Chicks should be fed on Excelsior Chick Food

prepared from clean, sound grains, seeds, beef scraps and charcoal in proportions to make a well balanced ration and produce strong, healthy chicks and keep them continually growing. For sale by all dealers and grocers. Take no other.

Excelsior Cereal Milling Company
242 Central Ave., Los Angeles

Barred Plymouth Rocks
Ocean Blue Strain
D. T. Wieland, Moneta, Originator

This strain has been bred in line by me for 19 years and never defeated in the show room. For 16 years our pullets have never lost first prize. At the big Chutes' show 1908, we won first and second pullet in a class of thirty, nothing else shown. Eggs $2.00, $3.00 and $5.00 per 15; incubator lots at $8.00 per 100. Eggs now testing fine. We have purchased the best son of the first Chicago pullet, 1907, to head one of our pens. A first prize cockerel heads our cockerel breeding pen. Other pens the same breeding and good ones.

Take short line car at 2nd and Spring Sts., via Gardena; get off at Illinois at Moneta. Right on Ranch.

Starbuck's Barred Plymouth Rocks

We trap nest our hens. Why set from poor layers? Bird laying qualities are inherited the same as any other. This year we have discarded all old matings and have gone to the next generation. Cocks have 9 generations of 200 egg mothers. Hens all from 200 egg mothers and from cock with 6 generations of 200 egg mothers, and are laying fine. We have divided into pens according to the way they are showing up in six months laying. $2.50 for 13 eggs from first pen. $1.00 from 2nd. until they have time to make longer records. (Except from our one best, not for sale. We claim the world's Barred Rock, 6 months laying record for this one.) Do you wish to hear about our prize winning Buff Orpingtons and Silver Wyandottes? We have something to crow about. No Sunday sales or visitors. *Wm. Starbuck & Son. Fullerton*

White Wyandottes Exclusively
Our strain have won in strong competition on the Pacific Coast
Day old Chicks, Incubator lots our Specialty, $15 per 100
Booking must be made in advance. *Stock and Eggs For Sale.* Send for our new Catalogue
GEORGE W GRACE & SON. RURAL 21 CAPITOL AVE. BOX 98, SAN JOSE, CAL.

BLOEM & VANDERGOOT
Black and White Poultry Yards
Successors to Ed. M. Burnell
Columbian Wyandottes exclusively. A few choice trios for sale. Eggs per setting $3.00 and $5.00. Eggs per 100, $15 and $20. Stock a matter of correspondence. LOCK BOX 51, GLENDORA, CAL.

Doke Chick Feed is The Pioneer Chick Feed

A Balanced ration made of pure grains (cracked), Seeds, Beef Scrap Charcoal. No grit no waste or bowel trouble in feeding this feed. Will send freight prepaid to any address for $3.50 per 100 lbs. Arizona points 50c extra.

Pioneer Hatchery 711 South Main Los Angeles, Cal.

Trap-Nested White Wyandottes

That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribons, all at Los Angeles County Poultry Ass'n Show, Dec. 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah.

Mission View Poultry Ranch Mrs. C. D. Hubbard San Fernando, Cal.

When writing advertisers, mention Cultivator.

"SUCCESS" INCUBATORS

and brooders are made from the very best materials obtainable. No machine at any price can beat them hatching. See them in operation at our store. We use them to hatch thousands of chicks every week. See the great Success brooder. The heater is the greatest invention ever made on a brooder. Catalogue is now on the press, send for it. Poultry lectures and other useful information for you. Written especially for us by California's best writers. Prices on Success Incubators and Brooders will astonish you. None can beat the price or the goods.

We Pay Freight
612-Egg Size, $40 340-Egg Size, $30
260-Egg Size, $20 130-Egg Size, $15
Send for catalog and free trial offer
E. E. McCLANAHAN
711 So. Main, Los Angeles

Investigate! That's all I ask. Get the best while you are at it.

You will succeed with the "Success"

BABY CHICKS

Buy Day Old Thoroughbred Chicks

The easiest and quickest way to get a start in the poultry business. You can get just the number you desire and at the time you are ready. No delay waiting for the hen or incubator to hatch and no uncertainty as to the number of eggs that will hatch—for mishaps will often occur that spoil your hatch even when almost ready to come off.

When you buy Baby Chicks, you select your breed, order the number you can care for, heat your Brooder, and you are right in the chicken business with both feet. Of course, it goes without saying that your Brooder must be constructed along correct lines—for upon the evenness of your Brooder's heat greatly depends the result. Brooders poorly made where the chicks have a tendency to "pile up" in order to keep near the proper temperature, cannot raise a full percentage of chicks, no matter how carefully hatched or how strong they may be. If your Brooder is right, you should raise 95 per cent of all chicks you start with.

We guarantee every chick we sell to be a thoroughbred, to be healthy, from a well-established strain, and we do not allow a cripple to go out.

We make a specialty of shipments to distant points. They can be sent safely up to 1000 miles and rarely do any die on the journey.

Our prices are $15.00 per 100 on all standard breeds, except White Leghorns, which are $10.00 per 100. We can sell in smaller numbers if you wish.

One order placed with us will prove to you that we "deliver the goods."

We sell Incubators, Brooders, Choice Seed and Poultry Supplies.

F. Gilman Taylor Seed Co.
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LOS ANGELES INCUBATORS

RELIEVE POULRYMEN OF HATCHING WORRY.

PEERLESS CHICK FEED
RAISES EVERY CHICK EVERY TIME

PEERLESS CHICK FEED
TRADE MARK

PEERLESS EGG FOOD
PRODUCES PLENTY OF EGGS ALL THE TIME

Lee's Carbolic Sheep Dip
IS GUARANTEED.

Henry Albers Co., 534 So. Main Los Angeles

Mammoth Bronze Turkeys One and Two Year Old Hens and Early Hatched, Well Matured Toms For Breeding
Well Bred, Carefully Selected Cockerels Good Style, Good Size, Pure White Birds S. C. White Leghorns Eggs for Hatching, Any Quantity Write your wants.
No trouble to answer inquirers. Satisfaction guaranteed.
Stuhr-Williamson Poultry Company
378 Bandini Ave. Home Phone 149 Riverside, Cal.

Black Langshans Well, we won again at Los Angeles. Two firsts, one second, one third on five birds shown. Best stock ever in show room in California. Eggs, $2.00 to $5.00 per 13, $10.00 to $20.00 per 100.
White Rocks Large and vigorous. Improve your stock with a setting or get a fine flock with an incubator lot. Eggs, $1.50 to $2.50 per 13, $8.00 to $12.00 per 100.
S. C. White Leghorns Order eggs now, we have plenty of them. Have had all winter, great big white ones. Eggs, $1.00 to $2.00 per 13, $6.00 to $10.00 per 100.
Phone East 915 Foster's Poultry Yards, 128 W. Avenue 41, Los Angeles

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WHITE AND BUFF WYANDOTTES
d Golden Sebright Bantams, prize winners
Stock and Eggs in season
M. E. Dillingham, Box 67 San Gabriel, Cal

S. C. Rhode Island Reds True Red Yards
Four pens, headed by Red Ranger, Red Flame, Red Scout, Red Cloud. Eastern winners. Eggs, standard utility, $1.50; select fancy, $2 for 13; utility stock $2. A. B. WHITE, DOLGEVILLE, CAL.

FARMERS SHOULD TEST THEIR SEED CORN.

During the past two months, members of the Experiment Station have made a study of the seed corn of the State and find the vitality of much of it to be in a serious condition. The unusual cold, wet season of 1907 did not allow the corn to mature and dry out before the time of frosts. In the early part of October, much of the corn of the State was still in a very moist and immature condition and the series of hard freezes which came at that time materially injured the vitality. The result of these conditions is that those corn growers who depended on late selected seed, are now finding upon close examination many ears of questionable vitality. For these reasons all seed corn should be specially selected and thoroughly tested. A test of each individual ear should be made and all weak or dead ears should be discarded.

This test can be made in several ways. The following is suggested as a reliable and satisfactory one:

Take a box made of inch lumber and of any convenient size, say about two by three feet and three inches deep. Through the ends and sides, about two and one-half inches from the bottom, bore small holes two inches apart. Through these holes string a light galvanized wire, which will divide the box into squares two inches to the side. Then fill the box with garden soil or sand and it is ready for use. The ears should be laid on the floor or racks in a row so they can be numbered. From ear No. 1 remove five kernels, each from a different part of the ear, and place these in square No. 1, remove five kernels from ear No. 2 and place in square No. 2, and so on, until all the ears have been tested. After placing the kernels, moisten the material in the box thoroughly and cover with a glass or a rug, to keep the surface from drying. Place the tester in a room of ordinary living-room temperature, or about 70 degrees Fahrenheit. After five days examine the corn, and any ears that fail to show a strong germination of the kernels, should be removed and discarded.

This method of testing corn is simple, convenient and rapid, and means much in securing strong, germinable seed. Only fourteen ears are required to plant an acre of ground. With an average yield each ear means five bushels in the fall. When a man can test five to eight bushels in a day and locate definitely all weak or bad ears, can he afford to neglect this important step in the preparation of his seed corn?—G. I. Christie, Purdue Experiment Station.

LOGAN BERRIES.

CORN WORM.

This pest takes cotton South and tomatoes in th Wherever sweet corn is gro are apt to find this wor called the "corn worm." Du summer, after the worm has full grown, it crawls out of drops to the ground, and sta during the winter in a li which it makes. The next s changes into a moth, which l on corn, cotton or tomatoes, case may be. Fall plowing only practical remedy, as means you break up the which the worms are hibe Should the plot of sweet co small, and you can not conve practice fall plowing, you c stroy the worms by hand. T ways start their work at the end of the ear, so that by o the husks a short distance you can discover the worm if present. If it is, feed the co cattle, or mash the worm. worm is infesting cotton or toes, pick them off and destro

Its habits of very general is among the difficulties exp in attempting its contr plants upon which the lar have been known to feed about 70. The principal crop United States depredated upo this species are cotton, corn, toes, tobacco and various g crops.

Various names have been a to this insect, according to th plant or character of inju flicted; the names "bud- "corn-ear worm," "tomato worm," etc., being various plied. The term "sharpshoote ing very loosely used, is quit applied to it. The exclusive u the term "bollworm" should b couraged to prevent confusi gardless of the food plant which the insect is found.

PRODUCTS "MADE IN CALIFO NIA".

A business-like looking sign h peared on a store room in M Place, Los Angeles, within a bearing the above legend, and quiry we learn from the Curt hall Company that the hearty which the State took up their ' In California" idea, left them native but to put the scheme into tical execution.

They will display products mad California, sell to tourists and orders from merchants, besides having good talkers to hand out lit Visitors will be attracted by extensive publicity.

Among other well known products the Exhibit includes Sylmar olive oil Calimyrna figs; dried fruit from the Colton Fruit Products Co.; silk from the Curtis Silk Farms; Cawston ostrich feathers; American Pure Food Co.'s ripe olives; Lemola toilet soap We understand that other products are being added almost daily.

Veterinary

T. Whittlesey, veterinarian, of Seventh street, Los Angeles, ver questions in this depart- ı writing of sickness or injury ınimal be explicit in giving ıs and particulars. Always en- l name and address, but if as- ıame or initials are preferred l be used. mmediate mail reply is wished $1.00 for such service, but for n paper, only, no charge is the answer will be of general

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l Ear of Dog.

ou tell me what to do for a dog's ear? He shakes his ntinually and carries head to e.—H. K., Watsonville.

ry likely has foxtail or some ing in the ear. Get an ear n and small pair of forceps, any foreign substance found ear, wash out once daily with n dioxide.

›il.

f my horses has a sore on the ront of the leg, said by some shoe boil. At times it dis- , then heals. No present nt seems to effect a cure. vould your Veterinary Depart- uggest?—A. F. H., Campbell.

ll never get well until the is cut out. After removal sew up with No. 22 soft steel wire, ıe horse standing until wound ely healed. This can be done nding in a single stall and a rope under him from one stall to the other. Wash out laily with eucamphol and one to 100.

Udder.

e inform me through the col- of your paper what to do to ıe caking out of a cow's bag. s been fresh for five days and ill caked very hard.—H. E. H., m.

best treatment is inflation of d quarter with air, using the ıent that is used for treating fever" or parturent paralysis. is not procurable, continuous g and hand rubbing with cam- ed oil is the next best. Spir- camphor and sweet oil one to

---

Plague.

ve a stock ranch in the Im- valley and devote much of my o hogs. This spring I have not very successful with my pigs the ages of six weeks to three ıs old. Out of one lot of 180 I lost more than 50 per cent. were weaned from six weeks to ıonths old and turned out in a here I have a large stack of l barley. They did well for a time and then commenced to I have found as many as seven in one morniug. They were nd plump and very active. I ht the trouble was due to hog o I soon got rid of that pest, hat did not diminish the usual er of deaths. Thinking they had disease, I dipped them in a on of permangulate of potash, hat was not effective. Lately I been examining them internally find large intestine very much ued and ridged, having the ap- nce of proud flesh on the out- the inside is coated with a ance that looks like cheese about ighth of an inch thick. Before die they turn purple on the belly legs. They frequently have eyes and a hacking cough. They m live longer than 24 hours after show the first symptoms. e that appear to be strongest and st frequently die in 24 hours. do not get thin and poor, nor hey get diarrhea.—A Subscriber, ley.

think your pigs have what the au of Animal Industry have ed as "Swine Plague," a dis- very similar to "Hog Cholera;" in fact, they may have both diseases at the same time. A few years ago there was a great discussion among pathologists as to there being any difference, some holding that it was all cholera, but Dr. Salmon who was chief of the Bureau at that time segregated the germs and produced the diseases entirely separate.

In order to post yourself thoroughly on the subject, write the Bureau of Animal Industry, Washington, D. C., asking them to send you special reports on "Hog Cholera" and "Swine Plague" and should advise you to call in your "County Stock Inspectors" to make a thorough examination of the conditions. But since the resignation of your late incumbent there is no one there competent to make a scientific examination. The disease is very contagious, the healthy pigs should all be moved to new pens not less than one hundred feet from the old ones, using none of the old material without thorough disinfection. All dead should be burned or buried deeply, and all litter burned. Be very careful about the water as the germs will be carried in the ditches.

POULTRY ON THE FARM.

In the discussion following a lecture on "Poultry," a gentleman in the audience gave some interesting statistics on the cost of keeping chickens on the farm and on the profits to be made from a well managed flock of farm poultry.

One dollar is the amount usually allowed as the cost of feed for one chicken for one year. But this gentelman stated that he had been keeping a careful record of his feed bill for several years and said that he was able to maintain his flock of 200 Plymouth Rock chickens at a cost of not more than 65 cents each, charging for all the feed they consumed at the same rate as he could have received from dealers. Of course the actual cost of production was much less than what he allowed. He found that after deducting the cost of feed, he had from $1.50 to $2 left each year as the clear profit on each hen. He said that this paid him very excellent wages for the time he spent with the fowls—so much so, in fact, that he is seriously thinking of enlarging his poultry operations.

Another farmer poultryman I was talking with a few days ago figured out his profits on a little different basis. Instead of estimating the extra high wages he has been getting for his poultry work, he figured out how much above the market price his chickens paid him for the food they consumed. He feeds his laying hens mostly wheat and finds that the hens pay him at the rate of something like $2 a bushel for all they eat.

These two cases are not exceptional cases at all; any farmer can do just as well or better if he is willing to keep good chickens and give them good care. Of course, there are flocks of farm poultry that are not by any means paying their keep; we are perfectly willing to admit that, because it is proof that poultry on the farm is unprofitable. What it does prove is that good chickens and good care are superir to scrub chickens and scrub care. To which class do you belong—that is the question.

There are a number of reasons why the farm naturally is more favorable to the profitable raising of poultry than any other place. A few of the most important ones are: The farmer can produce on his own farm all the food required by his fowls and at a much smaller cost than the same food could be bought elsewhere; he can utilize much food that otherwise would be of little value or would even go to waste; he can give his fowls free range during a great part of the year and thus materially lessen the feed bill.—Agricultural Epitomist.

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FREE—148-page book, contains 250 pictures and much valuable information in regard to poultry. Tells about the Old Trusty Incubator and Brooder, which are the LOWEST PRICED reliable Incubator sold today. Free trial offer and the most liberal guarantee made by any company.

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Special egg preserving buckets with wire cage, $1.00. Larger sizes, prices on application.
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We want you to see our place and birds, and will give you a reduction on purchases if you will call in person, but if you can't come send for our catalog. Worth money, but free. 1 blk. north, 2 east of P. O. P. O. box 125. Altadena, Cal.

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S. C. White Leghorn and Barred Rock Eggs for hatching, $1 per 13, $5 per 100. Won 12 ribbons at last Breeders Show on White Leghorns. Prize winners, $2 per 13. All hens in our breeding pens are selected, 2-years-old, and are great egg producers.
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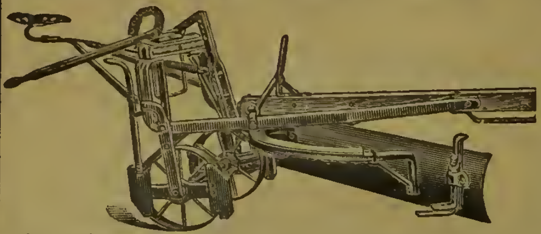

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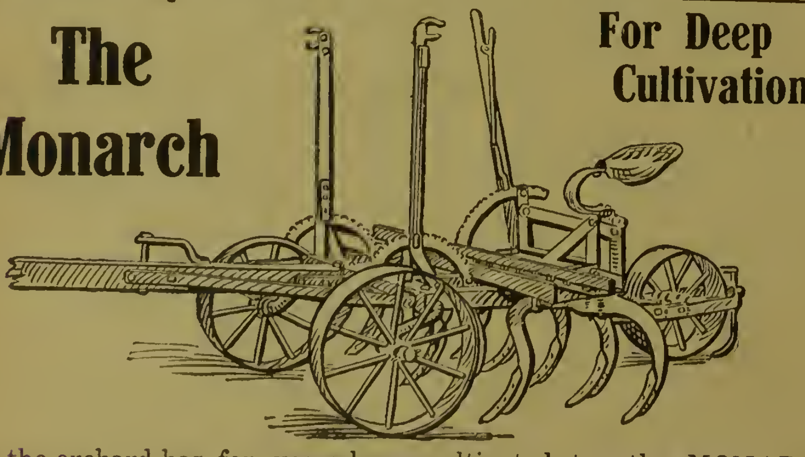

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LABORATORY INSTITUTE.

Continued from Page 362.

Wednesday morning opened with rather better attendance than the first day and the walnut men seemed to show greater interest than the vegetable growers. The first feature was a short address by Conductor Neff who referred to his experience in grafting trees at his own orchard. Mr. Neff has done the first grafting in Southern California in any large quantity. His orchard has been a very profitable one, but amongst the trees are many which have failed to bear either through the fact that they were shy bearers, or worse, that some were affected with the blight. Of these indifferent trees this year grafted about 80 trees. This work was done by an expert brought from the northern part of the State who has done much grafting there. At the time the work was done the invitation was extended to walnut growers of Southern California to visit his orchards and witness the operation. On first page is a photograph showing the manner in which the work is done, also a part of Mr. Neff's remarks at the Institute on Wednesday morning.

Prof. Smith.

Prof. Smith followed with a few remarks in which he urged the using, in planting orchards in the future, of only resistant trees grafted on California blight or hybrid stock. He said:

The industry is on the eve of revolution. The idea of obtaining any treatment which will be a remedy for blight has been given up and progressive growers are turning their attention to solving the question otherwise and believe it can be brought about in new plants of resistant qualities. He advised growers to go slow in planting new orchards and take time for selecting the trees. The old trees have not proved satisfactory, and the sentiment is fast gaining favor that the coming tree of Southern California will be native black walnut root, grafted with French varieties which by their habits of growth are immune from blight. Many improved varieties were also exhibited by Prof. Smith.

Walnut growing in France was treated by A. H. Dunlap of Whittier. Mr. Dunlap has been in the walnut growing section of France and gave most interesting points about marketing and culture in that country.

Semi-Tropic Fruits.

At the afternoon session Mr. C. P. Taft gave quite an extended account of tropical and semi-tropical fruits which have been tested in California, some of which have proven remarkably successful. Mr. Taft's work has been principally with the loquat of which the Advance and Premier seem to be his favorite. The greatest objection to the loquat industry is the blight which is fully as deadly as is the pear blight. Other tested fruits were the Avocado or Alligator pear, of which he said there were at least 100 trees in Southern California.

The Cherimoya or Custard apple, lemon guava, Sapota, Mangoes and other fruits which are yet in the testing stage and but little definite information as to their worth in Southern California.

Immune Varieties.

Prof. Ramsey made a strong point in his talk on immune varieties, he said that with all the plant the past several years which has ly increased acreage, the Cali output had continually dec This may be overcome in pa thorough cultivation and irrig abundance of fertilizer and i gent care at all times. But th vation of the industry will come the planting of only grafted from resistant stock. He pre the root stock the Californi or hybrid nut. He said in tim will be no more planting of s than there is now the plant seedling apple or orange. He the illustration of various p grafting some of which are p of on first cover page of this The period of grafting ext through the months of Feb March and April, and another will show which particular tim be the more favorite, as a vast ber of experiments are being this year.

For grafting wax Prof. Ran prefers the following:

Five pounds rosin, one pound wax; one pint linseed oil, with tle flour or lamp black to give The station force has prefer flour and Mr. Neff has prefe lamp black.

Mr. Koethen's paper appears o other page of this issue of the vator.

Wickson on Burbank.

The evening session opened w short address by Pres. Thomas lin of Whittier College, in whi made many comparisons bet the work of the Whittier Patho cal Laboratory and with schools and the public schools of country. It is all pathological a he urged that to cure the disea the human mind we should wor is urged in working with trees plants. That we use prev nt rather than curative measures

Prof. Wickson followed with short talk about Luther Burba k, i lustrating with many photograp the experiment grounds at the S Rosa and Sebastopol station of Burbank. Prof. Wickson sho proper appreciation for the which Mr. Burbank has done, carefully avoided any reference the so-called wizard power w many newspapers have seen fi accredit to Mr. Burbank. He that one of the greatest b from Mr. Burbank's work was i fact that it was encouraging observing people to open their e to some of the things which may accomplished in our work w plants.

Laboratory Day.

Thursday morning was given o entirely to inspection of the labr tory and excursion in the vicinity o Whittier. The laboratory is sit near the center of the town a ing more like a large residence t a State institution. Its interior, however, is planned for good, pr tical work, and is fitted with work benches, sinks, laboratory rooms, incubator rooms, together with microscopes and other delicate instruments for solving the various problems which come before the institution. Back of the building is a plat of ground where tomatoes, cabbage and other plants are being grown for use in experimental work.

At the opening of the session in the

n Mr. Moore of the Board
e read a short article adver-
he strong point of his com-

Simth's address will be lib-
uoted from in some later is-
the Cultivator.

Horticultural Commissioner
referred to a man whose
r told him that he was about
e a tour around the world
ked him to join in the jour-
ut he said he was about to
ke a trip around his garden,
a result of that tour in the
a book was produced which
d for many years. And so he
t the result of the establish-
f the Pathological Institute at
r would lead to knowledge
would be read and profited by
ucers of California for many
The remarkable intelligence
California fruit grower is such
is quick to take advantage of
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s of the State, issued by this
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. While there are many who
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must continue until there
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that one producer giving in-
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that time. In our tribute to
k which has been done let us
er that the work needs further
ort and practical aid.

t Wheeler.

min Ide Wheeler, president of
te University, of which the
gricultural College is a part,
ith greetings from Berkeley,
ions of the university which
was a Board of Trust to the
of the people. This labora-
w open in the city of Whittier
al of the life and need of the
The people must be stimulat-
, even irritated, at times, to
m to a place where they ac-
h the greatest good for them-
To that end we must use ex-
to solve our problems, and once
d they must continue until the
s are solved.
nade reference to Dr. Wiley's
and to the appointment of Prof.
on the investigating board by
elt. Prof. Taylor is a man
in physiological chemistry
Pres. Wheeler said, was one
newer sciences, as but very lit-
known of the relation of chem-
o our insides. We have paid
tle attention to the human tis-
nd the action of some things
are claimed to be injurious.
rst meeting of this commission
held in Washington, March
nd will take up various ques-
one of which will be the action
phur as it appears in various
roducts, also of benzoate of soda
human stomach. When Pres.
er referred to the fact that so
s known of this subject and the
ssion would practically have to
at the bottom, a voice in the
ce called: "Let them begin on
"

peaking of some practical ex-
nts in agriculture, Pres. Wheel-
erred to one experiment in re-
; the "strength" of the onion
id that many more onions will be consumed were it not for the one disagreeable factor that it was very "savory." It should be made just savory enough to wear to meetin'. When that was accomplished he declared we would have a glorified onion.

Filcher.

J. A. Filcher, secretary of the State Board of Trade, was present and made an address in lieu of Gov. Gillett, who was unable to attend.

The Banquet.

The banquet given in the evening was well attended and a royal good time enjoyed by all.

Citrus Day.

Friday's program which was entirely citrus, called the largest attendance of outside-of-town delegates. The delegations from Riverside, Pomona and Covina were very large and even Ventura county was represented. Local people also drove in until the church in which the sessions were held was thoroughly filled. One of the most interesting features was that of the exhibit room, where the commercial pack of many of Southern California's best packing-houses were shown. This was supposed to be, as each house sends out under its brands, but one or two boxes of lemons were plainly put up for exhibition purposes rather than a regular commercial pack. Other than these exceptions the exhibit was very instructive as to the manner of packing in the different houses.

Tulare County.

The institute opened in the morning with a paper by Mr. A. G. Schulz, who gave a very able presentation of the manner of handling orange groves of Tulare county. This paper will be given more fully in a later issue of the Cultivator.

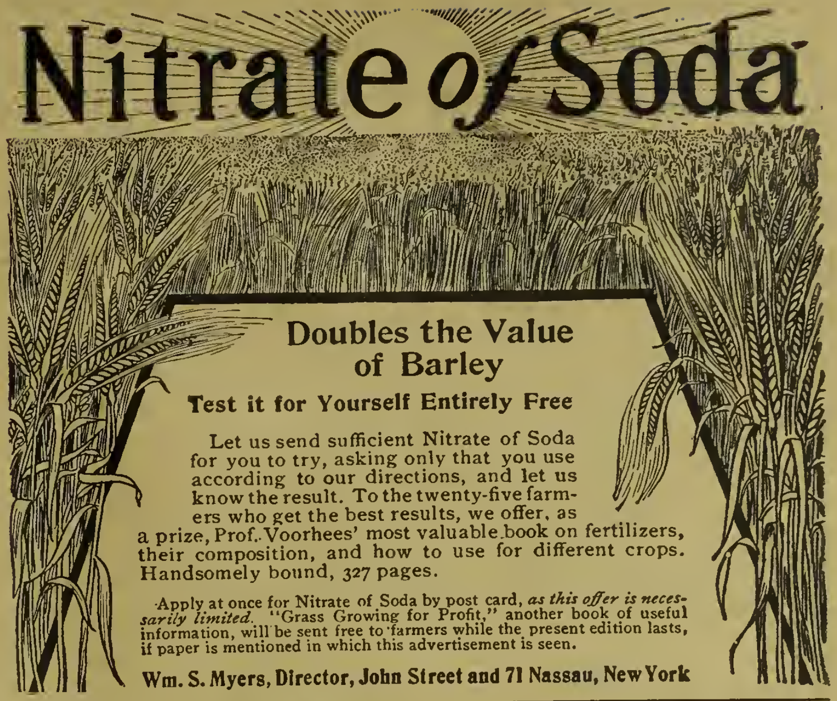
Gum Disease.

As Mr. Schulz had referred in his paper to the fact that their trees were on heavy 'dobe soil and were often effected by "foot rot," quite a discussion followed on that question. Prof. Smith said that there were many different forms, or at least three, of this disease. The one which effects the Tulare county orchards is generally the true mal-di-goma. This is a constitutional disease brought about by soil conditions, and its cure is brought about by correcting those conditions. At Porterville it has often been secured by excavating the hard ground immediately around the tree and filling in with gravel or sand. The trees are then treated by cleaning or scraping away the diseased gum and covering with a grafting wax consisting of four parts rosin, two beeswax and one part mutton tallow. This is not a curative in any sense, but is a treatment simply given, as would be the case where bark was injured by the plow or in any other manner. Prof. Smith recommended emphatically that trees planted on heavy or moist soils should be budded on sour Florida stock.

Tribute to Smith.

J. A. Reed, of Semi-Tropic Fruit Exchange, Los Angeles, gave tribute to the work of the pathological laboratory and to Prof. Smith in particular for his work with the brown rot and the advantage it had given to the lemon men of California. For this work he gave the hearty thanks of the fruit grower and hoped that the investigations of the brown spot which Prof. Smith is now looking into would

Continued on Page 375.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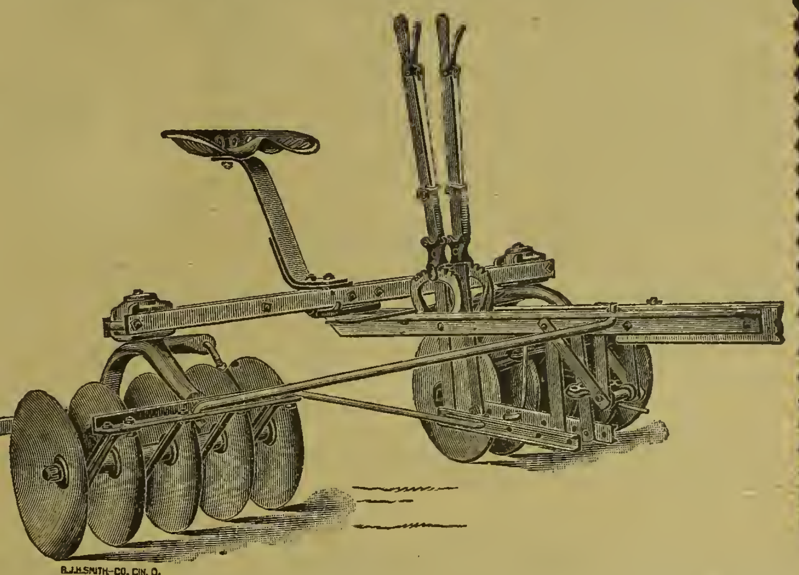
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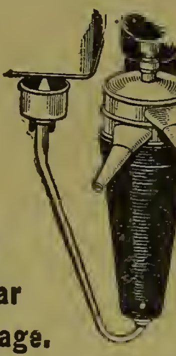
The first doorway represents the Tubular bowl bottom—the milk flowing from the supply tube, in a smooth current, directly into the separation process, rising smoothly through the bowl, all going the same way to the discharge pipes.

The second doorway represents the milk at the bottom of a top-feed "bucket-bowl" separator—at the bottom of all "bucket-bowl" separators. The supply of milk coming down from the top has to stop, reverse its current from down to up, and start into the separation process in conflict with what was previously in the bowl.



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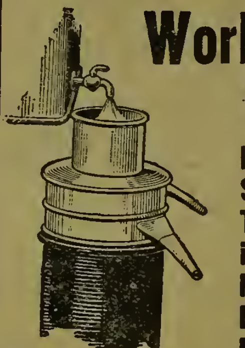

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JUST PUBLISHED.

Continued from Page 361

is very watery, but the percentage of fat, sugar and proteids in the milk is not affected to any degree by different kinds of food stuffs. One often reads of the marked influence of a change of food in increasing, or otherwise, the percentage of fat in the milk. But, while a sudden change in the ration may produce a corresponding alteration in the percentage of fat in the milk, it will be found only a temporary matter. The single exception to the rule that the composition of milk is not changed by feeding, is when the animals are not in a normal condition. If an animal has not enough food to be maintained in a normal condition there may be a disturbance of the functions of the udder, as of any other function in the body, and, therefore, alteration in the composition of the milk.

"Notwithstanding the fact that the composition of milk can be materially altered by feeding under ordinary circumstances, yet by good feeding and breeding (taking advantage of increased fat yield in milk through careful selection,) it has been found possible in several generations to produce an animal giving milk one per cent richer than that common to its breed. This has been accomplished by some in th the Holsteins.

"Wolff's original feeding for milk cows, per day pounds live weight, is as

Digestible protein ....
Digestible fat ....
Digestible carbohydrates ...
Total Dry matter ....
Nutritive ratio ....

It is published by Wm. R. Co., 851-853 Sixth Ave., N. Y. price is $2.50.

HORSE NOTES.

Every breeding animal re ercise. This is especially tru stallion.

When the mare is at work should be kept in the barn o is better not to let it suckle has cooled off.

Watering the first thing morning and the last thing a is a good practice.

If a horse is fidgety and and lays back his ears whil harnessed, there is a reason conduct. It is more than lik he has been frightened or ab his former caretaker. C kindness will, in most insta fect a cure.

Among the most importan in horse training is to cul good disposition. It adds ver to the value and usefulness horse.

Does the collar fit perfect know a horse may be ruined ill-fitting collar.

It matters little whether th is to be a trotter, a roadster draft horse, the treatment colt for the first year's feed is the same. The best growth from the feed and care.

It is easier to keep a ho shape than to make him we he once succumbs to disease.

Horses are classed as d when they weigh from 1600 pounds; chunks, 1300 to 150 pressers about the same; ca horses and roadsters 1000 t pounds.

Do not teach the colts ba What seems cute today may ious in a few months.

However good the pastu will do better the second year have a small ration of grain prefer oats or barley, but co has produced good results. pense will not compare with creased improvement in the

WORLD'S CHAMPION BU COW.

The world's record for a y duction of butter fat has ju broken by a pure bred Holste According to a statement ju by the Agricultural Experime tion at the University of W a test under direction of Prof Woll, the cow Colantha 4th's na produced during the past 432.5 pounds of milk and pounds of butter fat. This of butter fat is over 16 per c er than any previous offici re for annual production of but This production of butter fat equal to at least 1156 pounds of ter, or about 3 1-5 pounds of bu per day for the year. The wo record for the past two years been held by a Guernsey cow.

PILES CURED IN 6 TO 14 DAYS
PAZO OINTMENT is guaranteed to cure case of Itching, Blind, Bleeding or Protr Piles in 6 to 14 days or money refunded

Classified Liners

1½ cents per word per issue. No ad accepted for less than 25 cents. Our ied columns are the clearing house for the readers of the Cultivator. Here ın insert an ad for the small sum of 1½ cents per word per issue, and be hat it will be read by thousands.

TREES.

TREES—BARGAIN COUNTER , close out stock. Fine large trees blight. Seed selected from Pla- ᵓerfection grafted trees. G. W. ⅁D, Fullerton, Cal.

ORANGE TREES, VALENCIA el 2-year-old buds, clean and thrifty ldress F. E. CHAPMAN, R. F. D., ᵓasadena, Cal.

LE—10,000 BLUE GUMS 4 TO 8 a talled in flats. Price $7.50 per D E., Anaheim. Address L. Z. ₹TON Anaheim, Cal.

ALE—2-YEAR-OLD SOFTSHELL trees. Address J. M. McFADDEN,). 1, Box 57, East Whittier, Cal.

IAVE YOU IN NURSERY STOCK? M. HALL, 1310 D ST., San Diego,

hat a Liner Will Do

ıes, Cal., March 9th, 1908.
aving sold all my
ses through your paper
l enclose an ad for ranch.
nt it to run four weeks.
C. E. Garrett.

EGGS FOR HATCHING.

ROM MY PRIZE WINNING BAR- ks; won all firsts, all seconds but all specials on Barred Rocks at P A. Show, 1907. Eggs from best per 15; $12.50 per 100. Stock for AS E. SMITH, Gardena, Cal. San terurban car to Smith's Crossing.

LEGHORNS (HOWARD STRAIN), andottes (Hubbard strain) Eggs; $5 per $100; Wyandottes, $7. Baby OM BRED TO LAY STOCK SHIP- where. Ranch 2 blocks from car. LAUGHLIN, Gardena.

ROCKS A SPECIALTY—I CAN eggs from strong, vigorous birds the skin and correctly mated for $2.50 per 15. Incubator lots a matter ndence. ENOCH CREWS, Darwin lway Sts., E. Santa Cruz, Cal.

HITE LEGHORNS—THOROUGH- 0-egg trap nested strain. $1.50 per Runner ducks, $1 per 12. Roosters erels for sale. A. HENRY, "The ' Orchard & Poultry Ranch, Rum-

LE—BLACK TAILED JAPANESE Eleven pairs at $3.50 per pair to surplus. All good breeders. F. J. GER, 127 N. Garfield Place, Holly- l

NA ORPINGTON FARM—MATSON Box 1001, Pasadena. Golden Buffs y Settings $10.00, $5.00 and $3.00. nings at show Los Angeles 1908. n guaranteed.

BRONZE TURKEYS ARE KNOWN ld over; are unexcelled for size, beauty of plumage and early ma- ggs for hatching $5.00 setting, $35.00 ED. HART, Clements, Cal.

ORPINGTON AND WHITE $2.00 per sitting, $6.00 per 100. In- ner ducks, $1.00 per 12, $5.00 per 100. ss stock. WYATT & WOLLITZ, k Poultry Ranch, Corona, Cal.

LE—EGGS OF THE FOLLOWING d bred poultry: Black Orpingtons, winter layers, Brown and White J. J. VERKOUTEREN, route 3, Cal.

ALE-LINE BRED WHITE ROCK s from Mrs. Basley's original strain. r prices Also eggs for sitting $2.50 MRS. KATE B. JOHNS, Compton,

RD BRED WHITE PLYMOUTH best of layers, unexcelled for table Eggs for hatching, $1 50 per sitting, 10 MRS. M. A. HUDDLESTON, Cal.

BLACK MINORCAS—EGGS FROM standard matings, $2 per setting. od utility stock, $5 per 100. S. D. RD, Gardena, Cal.

SIVE—EGGS FROM PRIZE WIN- tock; Single comb Rhode Island 00 per setting. See my birds. H. P. , Pomona, Cal.

ALE—INDIAN RUNNER DUCKS. ghbred stock, heavy layers; special ile they last. F. D. SALTER, Ceres,

HODE ISLAND EGGS, WINSLOWS $1.00, $2.00, $3.00 for 15. MRS. . ADAMS, Box 785, Monrovia, Cal.

DUCK EGGS—FIVE DOLLARS undred, also Ducklings (select). J. P. I, Dimond, Alameda Co., Cal

BRAHMA EGGS FOR HATCHING. er 15 or $6.00 per 100. J. S. BEN- San Bernardino, Cal.

'S MAMMOTH BRONZE TURKEYS at 25 cents each; 50 at 20 cents each; $15. Order now. C. K. MORSE, lle, Cal.

ALE—A FEW TURKEY EGGS FOR ng: $2.00 for 15. C. C. ELKINS, Jr., , Cal.

OTH BRONZE TURKEY EGGS FOR Ten dollars a hundred. MRS. W. B. RDS, Holtville, Cal.

MACHINERY.

FOR SALE—COMPLETE PUMPING plants, electric, steam and gasoline machinery of all kinds the equal of new at greatly reduced prices. See us before buying. BAILIE & BRANDT CO., Los Angeles.

FOR SALE—A 5-H. P. VERTICAL GAS ENgine in perfect working order. Cheap. Address G. W. PHELPS, 833 S. Grand Ave., Los Angeles, Cal.

FOR SALE—10-H. P. FAIRBANKS-MORSE distillate engine in A1 condition at a snap. N. W. cor. MAIN & BRUNO STS., Los Angeles.

FOR SALE—SEVERAL STEAM ENGINES of good make at very low prices. 943 N. MAIN ST., Los Angeles.

POULTRY

BLACK MINORCAS OF QUALITY—A Choice lot of large size cockerels bred to standard requirements. A rare chance to get an excellent breeder $2 to $5. One pen mated up for my own use of finest high scoring female specimens and layers, standard weight and over, to a grand cock bird which headed Geo. H. Northup's first pen last season. A few settings to spare at $3.00. J. P. McDONOUGH, Geyserville, Cal.

FOR SALE—FOR $25.00 CASH I WILL SELL to you all of my Homer pigeons (about 150.) Need room for something else. YANKTON POULTRY RANCH, Box 41, National City, Cal.

LAKE AVENUE POULTRY YARDS—WON 5 cups, 27 ribbons on Reds this season, including five straight firsts at Breeders' Show. Standard eggs $2.00 for 15, $8.00 for 100. Special matings $5.00 and $3.00 for 15. New mating list. 755 N. Lake Ave., Pasadena.

BUFF ORPINGTON DUCKS, THE GREAT commercial bird; good for market; great layers. Eggs now $3.00 per 12; $5.00 per 26 from our imported English blue ribbon strain. GOODACRE BROS., Compton, Cal.

DAYTON'S ROUP TABLETS ARE GUARanteed to cure or money back—not talk back—money. 50c by mail if your dealer hasn't . WEST COAST MILL, 818 San Fernando St., Los Angeles, Cal.

KILLAMITE KILLS THEM—BEST INSECT powder made for fowls or plants. 50c for 2½ lb. sifting can, express prepaid by us if your dealer hasn't it. WEST COAST MILL, 818 San Fernando St., Los Angeles, Cal.

COLUMBIAN WYANDOTTES — NEVER fail to win in the hottest competition. A few trios for sale. Eggs $3 and $5 per 15. F. J. IRONMONGER, 127 N. Garfield Place, Hollywood, Cal.

WHITE PLYMOUTH ROCK SILVER CUP winners at the big Chutes Park show, January 6th to 12th, 1908. Eggs, $2.50 and $2.00 per 13. Average score of first pen 95½. ADAM RANKIN, 271 Isabel St., Los Angeles, Cal.

FOR SALE—BLUE ANDALUSIANS, A FEW cockerels and two or three trios. Eggs later. J. H. WALKER, Olinda, Shasta Co., Cal.

FOR SALE—S. C. RHODE ISLAND RED hens and pullets and Black Minorca hens. Eggs for hatching from pen of Hoganized R. I. Reds, $1.50 per 15. MRS. L. M. RUCKER, R. F. D. No. 1, Chico, Butte Co., Cal.

INDIAN RUNNER DUCKS AND BLACK Langshan fowls. Eggs and stock for sale. Large, fine stock, with good range and strong fertility. CLYDE J. MOSS, Corona, Cal.

BERRY PLANTS.

FOR SALE—LOGAN, MAMMOTH BLACK, improved Mammoth Black and Himalaya Giant berry plants, all tips at $2.00 per 100. Address A. YUHNKE, R. R. No. 3, Chico, Cal.

WANTED—ONE-YEAR OLD LOGANBERry plants. Address P. O. BOX 2697, Fresno, California.

FOR SALE—BRANDYWINE STRAWBERRY plants, Kellogg stock, untrimmed, $2.50 per thousand. Call or address J. W. ROE, East San Gabriel, Cal.

FOR SALE—LOGANBERRY PLANTS—A few thousand large, well rooted plants grown from a new planting. Address W. J. EMBREE, Rural Box 69, El Monte, Cal.

FOR SALE—8000 LOGANBERRY PLANTS. C. F. STANFIELD, Station L, R. F. D. 6, Los Angeles, Cal.

FOR SALE—MAMMOTH BLACKBERRY plants $2.00 per 100. Address WM. H. CARTER, Modesto, Cal.

MISCELLANEOUS.

DELMONICO'S CHEF SAYS: "THE ANchor egg separator works perfectly; no well regulated hotel or household can afford to be without it." Send ten cents, or ten names of persons keeping poultry, and we will send one postpaid. WEST COAST MILL, 818 San Fernando St., Los Angeles, Cal.

BEE SUPPLIES—WHILE IT LASTS 300 lbs. medium brood comb foundation (Weed Process) at 45c a lb. in orders of 10 lbs. or more. Also a small quantity of thin super foundation at 50c. J. B. WHITAKER, El Centro, Cal.

FOR SALE—HAVE ABOUT 800 SACKS IMproved Minnesota Burbank seed potatoes, $1.50 per hundred, F. O. B., Garden Grove, on the Pacific Electric. J. W. WALLS, Garden Grove, Orange Co., Cal.

DEVICE FOR HOLDING COW'S TAIL while milking. Sent postage paid 10c. BOX 17, Arbuckle, Cal.

FOR IMPERIAL VALLEY NEWS SUBscribe to the Brawley News, BRAWLEY, Cal., $1 a year, sample copies free.

ELLIOTTS OINTMENT CURES LUMP jaw in cattle—never fails—$1.00 per box. D. R. ELLIOTT, Riverside, Cal.

FARM LANDS FOR SALE.

FOR SALE—1 to 10-acre tracts on car line between Riverside and new cement works. Good for chicken ranches, alfalfa or gardening. Will sell on easy terms. Plenty of water on each tract. C. C. POND & N. R. BELL, Riverside, Cal.

FOR SALE FOR $1750—AN UP-TO-DATE chicken ranch. Five hundred Rhode Island Reds. Well advertised. Good paying business in best inland town in State. If interested address "THE RED" care of Cultivator, 115 N. Broadway, Los Angeles, Cal.

FOR SALE—40 ACRES, LEVEL; FINE for chickens, vegetables, berries, etc., $30 per acre; a bargain. WM. MANTZ, Santa Maria, Cal.

DOGS.

SABLE AND WHITE COLLIE PUPPIES—Sires, Brandane Wishaw Squire and Glen Fana Bounder, litter brother to Aufield Model. Dams, Ormskirk Gloriana and Presidio Nellie. $10 to $25; 2 to 8 months. GLENALPINE KENNELS, Grandville, Cal.

ARTICHOKES.

FOR SALE—JERUSALUM ARTICHOKES—The great winter hog feed. Address FANCHER CREEK NURSERIES, Fresno, California.

ROSES.

FOR SALE—ROSES, FIELD GROWN AND grafted; two-year-old plants. Will sell in large lots at a bargain before potting them. H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

MARKETING.

A practical knowledge of marketing on the part of the housewife affects both the comfort and the expenses of the whole family. Intelligence and skill in buying are needed, but they are only secured by thought and careful practice. The purchaser must not be afraid to ask questions, as most men with whom she will have to deal will be patient, helpful and reliable.

It is usually to one's advantage to select a regular place for marketing. Greater consideration is shown such customers and better results are obtained.

It is a good plan to order for more than one day at a time. If you have consideration for those from whom you are buying by ordering groceries or meat in ample season, so there is sufficient time to fill the orders, you will find your orders will be sent to you on time. Too many housewives plan so little beyond immediate needs; oftentimes they leave the ordering of a roast until about ten minutes before it should be in the oven.

The telephone should never be used regularly in place of frequent visits to the market. Orders given to the order man have not proved so satisfactory as the visits to the store. Greater variety is secured by seeing many unthought of articles; also a closer economy.

Strong emphasis has frequently been placed upon the fact that "the best for the purpose is always the cheapest." One writes, "In buying meats as much nourishment and as palatable food, if well cooked, can be obtained from cheap cuts as from choice ones. In carpets or rugs, excellent wear and more service is secured from some not of the highest price. On the other hand, it pays to buy the best in many lines of groceries, for the best means the purest, least adulterated."—Mary J. Brush, Assistant, Department of Domestic Science, Colorado Agricultural College.

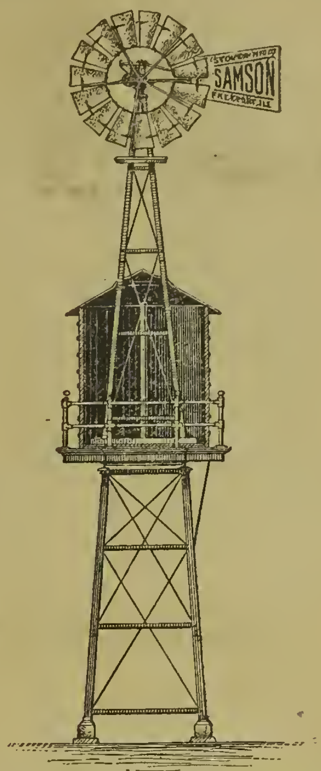
PREFERS CAUSTIC BALSAM TO OTHER PREPARATIONS.

Please send us your pictures of "famous horses." We have a good sale on Gombault's Caustic Balsam and it gives good satisfaction. People come back for it and take it in preference to similar preparations at one-third the price.—Homestead Pharmacy, Homesteal, Ia.

The State college farm at Pullman, Washington, has about 100 head of hogs, consisting of Poland-Chinas, Berkshires, and Duroc Jerseys.

SAMSON WIND MILLS

Have double gears, removable bearings and center lift, which double the life of the mill. They will last longer, pump more water and give better satisfaction than any other WIND MILL.



This is an up-to-date Sub-structure, Tank and Wind Mill outfit complete; substantial, economical and attractive. We build all kinds. Write us or our general agents for full information and prices, description &c., before purchasing.

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Great Bargain in Fine Land

The Big Field Ranch in Kern County is being colonized and is now on sale at the low price of $25 per acre, 1-4 cash.

It lies in the heart of activity in the San Joaquin Valley, a broad area of perfectly level land, consisting of rich sediment.

This land has an inexhaustible supply of artesian water, and is fully equal in productiveness to any land in California, regardless of price.

Suitable for grapes, alfalfa, peaches, grain, sugar beets, dairying, etc.

Unquestionably the greatest snap in high class land ever offered in the State. Excursions leave Los Angeles every few days. Call or write for maps, booklets and full information. Do not delay. Do not locate anywhere without seeing this magnificent property.

7000 acres have been sold to practical farmers. 5000 acres will be under cultivation this season.

Percy H. Clark Co.
311-312 H. W. Hellman Bldg.
Los Angeles, Cal.

A bitter fight is on between two sugar companies at Grand Junction, Colorado, where both parties are endeavoring to secure contracts for the next season. This should be agreeable to beet growers.

Oregon apple growers have taken up a line of advertising by "sun printing" on their bright colored apples by placing the advertising matter over the fruit with perforations while it is growing and coloring.

Largest National Bank West of Denver and South of San Francisco

First National Bank

of Los Angeles, California

UNITED STATES DEPOSITORY FOR GOVERNMENT FUNDS

TOTAL RESOURCES, $20,000,000

ADDITIONAL ASSETS—One Million Five Hundred Thousand Dollars invested in the stock of the Los Angeles Trust Company and the Metropolitan Bank and Trust Co., and held by the officers of the First National Bank, as Trustees, in the interest of the shareholders of the Bank.

We are prepared to extend to the small depositor the same personal and careful attention that we do our largest accounts.

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The Oldest and Largest in Southwest

Call in and inspect our fine Banking and Safe Deposit Department. Best in the West.

Your Best Friend

in need is a savings account. This is true in countless ways, but more than any other it is your stanby when investment opportunities present themselves. Start a savings account now, and you will soon be in the position of having your savings make you money.

Home Savings Bank

152 N. Spring St., & 540 S. Broadway
Los Angeles, California

Western Gas Generators

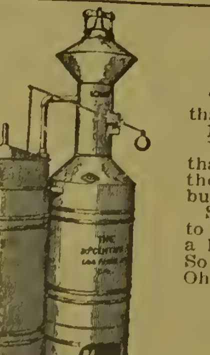
The most reliable and cheapest GASOLINE GAS GENERATOR ever put on the market.
For Lighting, Cooking and Heating. This Generator is used by the largest hatcheries in California for Incubating and Brooding.
AUTOMATIC, SAFE, ECONOMICAL.

Read what Mr. A. W. Foster, President of the California Northwestern Railway, has to say about them:

Gentlemen: Replying to yours of the 20th inst., I would state that the plant installed for me by the Western Gas and Power Company on my Hopland Stock Farm, is giving entire satisfaction, and I cannot speak too highly of it. Yours truly,
A. W. FOSTER.

Mr. Foster used an acetylene gas generator before we installed our Western. Send for our latest Booklet.
Good reliable Agents wanted.

Western Gas & Power Co.
1842-48 Seventh St., Oakland, Cal

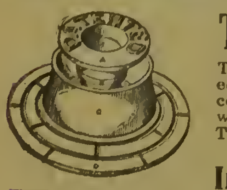


Say, Mr. Cultivator

The boss sent me down to ast you to tell all your friends that we have mooved.
Nope, Im the janitor.
Yep, the other place got too small after pepul got onto that 1908 Model. Yep, that's the one where you can see the feed valve. Bulsy[Well, I guess, we are; keeps me busy rolling em out on the walk to the dray.
Simple to operate? Well, yea'ss I should say so; sold one to a Widder woman whos boy don't know how to eat with a knife and fork, but he can charge the machine all right. So long! You fix it up, tell em all about Acetylene Gas. Oh tell em to come in and see us er elce rite.

20th Century Light Company

Now 738 So. San Pedro St. Los Angeles, California



The Star Oil-Gas Burner

The Star only Oil-Gas Burner is a simple, safe and economical device for taking the place of wood and coal in all cook stoves, ranges, heaters or furnaces, without more soot or smoke than from a wood fire. The only Oil-Gas Burner that will not clog.

NO WORK WORRY DIRT DANGER

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Records and Supplies, delivered at your nearest railroad station upon receipt of full retail price. Write for particulars and ask for catalogue. Peter Bacigalupi & Sons, 1113-15 Fillmore St. San Francisco

Well DRILLING & PROSPECTING MACHINES.

Fastest drillers known. Great money earners!
LOOMIS MACHINE CO., TIFFIN, OHIO.

Household Departm

LITTLE FOLK LAND.

Let's go a-seeking for Little Folk Land,
Where I went straying a long time ago.
Hey, little wayfarer, give me your hand,
And lead to a vale that I once used to know;
For there were more wonders than later years see,
Fairies and elves in the dawnlight at play;
And, "Let's return thither," my heart whispers me,
But, oh, I've forgotten, forgotten the way.

Ah, there are secrets in Little Folk Land,
Riddles that only the babies may guess;
Not even a mama can quite understand
Glory of paths that the tiny feet press;
Beautiful castles in wonderful dells,
Caverns, gnome-haunted, a-glitter with light,
Music that's tinkled from fairyland bells—
And it's, oh, to go back to that country tonight!

Ho, little traveler, I've gone astray,
Losing the way from the Now to the Then;
Give me a finger and lead me away
Unto the Little Folk Country again.
All of the wealth of the Valley of Now
Is but alloy to the riches you konw—
Hey, little chap, with a smile on your brow,
Lead me again to the long, long ago.

—A. J. Waterhouse.

HOW HEROES PROPOSE.

PROBABLY in all the billions of proposals that have gladdened the earth since Adam's day no two have been precisely alike. Every man has his own way of asking the woman he loves the momentous question, and every woman has her own way of answering.

Fiction writers have realized this, and it is amusing to note the way the heroes of popular novels lead the love making up to the point of "popping the question."

No stranger proposal is to be found in fiction than that of the "old sea dog Solomon Sprent," in "Micah Clarke," by Sir A. Conan Doyle.

Solomon, having scarce put foot on land for nigh forty years, can, as a consequence, only speak in the sea jargon. He insists that Micah shall come with him on his momentous errand as consort, "and stand to and fro in the offing." He also arranges for the flagship (himself) to let her consort (Micah) know if the enemy hauls down her colors, by hoisting "a white jack at the porthole."

As it proved, the sailor had no great difficulty with his suit, and soon managed to capture his prize. Here is his own account of how he popped the question:

"Having read her the articles of war, I explained to her the conditions under which we were to sail in company on life's voyage—namely:

"First—She to obey signals without question as soon as received.

"Second—She to steer by my reckoning.

"Third—She to stand by me as true consort in foul weather, battle or shipwreck.

"Fourth—She to run under my guns if assailed by picaroons, privateers or garda costas.

"Fifth—Me to keep her
pair, drydock her at int
see that she hath her a
coats of paint, streamers
ing as befits a saucy plea

"Sixth—Me to take no
in tow, and if any be no
to cut their hawsers.

"Seventh—Me to revictu
by day.

"Eighth—Should she
spring a leak, or to be bl
beam ends by the wind
tune, to stand by her a
pumped out or righted.

"Ninth—To fly the Prot
sign at the peak during lif
and to lay our course for
harbor, in the hope that
and ground to swing may
for two British-built craft
up for eternity.

" 'Twas close on eight be
these articles were sig
sealed."

But it is not always the s
has to do all the wooing;
the damsel meets him
half way, as did Phillis
Lane Allen's "Two Kent
tlemen." This is how P
won by her Baptist lover:

"Hit wuz long time," he
" 'fo' Phillis come to heah
any mo'. But 'long 'bout
fall we had big meetin', en
j'ined. But Phillis, she ai
j'ined yet. I preached mi
all roun' my coat tails till
myself, 'D'ain't but one text
jes got to fetch 'er wid dat!
wuz on de right tail o' m
'Come unto me, all ye dat
is heavy laden.' Hit wuz a
mentous sermon, en all 'long
see Phillis wras'lin' wid 'er
say, 'She got to come dis n
Lohd he'pin me. En I had
'n said de word, 'fo she jes
down en guv me 'er han'. I
had de baptizin' in Elkhorn
en de water wuz deep en de
tol'ble swif'. By-en-by I stood
edge o' de water, en Phillis
down to let me baptise her
en' er j'ined han's en wad
de creek, mighty slow, ca
did 'n have no shot roun' de
uv 'er dress, en it kep' floatin
de water till I pushed it do
I says to her, very kindly,
put you un'er de watter, P
mus' try en hole yo'se'f
can lif' you up easy.' But
mo' 'n jest got 'er laid bac
watter ready to souze 'er u
'er feet flew up off de botto
creek, en when I retched
fetch 'er up, I stepped in a
'fo I knowed it, we wuz fl
roun' in de watter, en de h
was singin' on de bank
mightly confused like. E
she swallowed some watter
oncet she jes grap me ri
roun' de neck, en said mi
says she, 'I gwine marry
gets me out'n dis yere wat

"En by-and-by, when [illegible]
wuz walkin' de bank o' [illegible]
drippin' all over, I says to 'er
'Does you 'member what you
back you'er in de watter, Philli

"I 'ain't out'n no watter yit,' s
she, very contemptuous.

" 'When does you consider yo'
out'n de watter?' says I, ve'y h
ble.

'When I get dese soakin' clo'es ı my back,' says she.

Hit wuz good dark when we got ıe, en atter a while I crope up to doah o' Phillis' cabin en put my down to de key hole, en I see llis jes settin' 'fo' def balzin' s dressed up in 'er new red linsey ss, en' 'er eyes shinin'. Den I tap y on de doah, en say en a mighty mblin' tone, says I:

'Is you out'n de water yit, Phi-?'

'I got on my dry dress,' says she.

'Does you 'member what you had d back yon'er in de watter, Phil-?' says I.

'De latch string is on de outside doah,' says she, mighty sof'.

'En I walked in."

here was no beating about the h when Sam'l Dickie proposed to owhead's Bell, as related by J. M. rrie in his inimitable "Auld Licht lls." The following is an idged account of the famous race m kirk to homestead between m'l and Sanders, resulting in the tory of the former, and his light-ıg proposal, which also is de-ibed:

or two years it had been notori-s that Sam'l Dickie was thinking courting T'nowhead's Bell, and ıt Sanders Elshioner might prove formidable rival.

he courting reached its crisis one bbath.

The first half of the service had en gone through. It was at the d of the psalm which preceded the mon that Sanders who sat near door, lowered his head, and in ıt attitude slipped out of the ırch. Sam'l, from his seat in the lery, saw Sanders disappear. With true lover's instinct he under-od it all. Bell was alone at the m. What an opportunity to work e's way up to a proposal! San-rs, doubtless, was off to propose, d he, Sam'l was left behind.

am'l rose to his feet in a daze. He tered past his parents, hurried up aisle, and was gone.

t was a race for a wife, and sev-ıl onlookers in the gallery braved e minister's displeasure to see who n. The chances were in Sanders' vor. The rivals had seen each her! It was now a hot race. Sam'l ıd it! No, Sanders was in front! me of the congregation perspired.

Sam'l was just in time to cut San-rs out, though sadly blown. San-rs took in the situation and gave at once. When he arrived at his stination he did not go in. He ent to have a look at the pig.

"Lord preserve 's! Are ye no' at ıe kirk?" cried Bell, nearly drop-ng the baby as Sam'l broke into ıe room.

"Bell!" cried Sam'l.

Then T'nowhead's Bell knew that r hour had come.

"Sam'l, she faltered.

"Will ye hae 's, Bell?" demanded am'l, glaring at her sheepishlly.

"Ay," answered Bell.

Sam'l fell into a chair.

"Bring 's a drink o' water, Bell," e said.

* * *

In Charles Read's "Love Me Lit-le, Love Me Long," we have a little ve scene conducted on good old-ıshioned lines. David Dodd, the evout lover, is on his knees:

"What are you doing, Mr. Dodd?" avid arose from his original posi-ion, and, being a young man whose impulse always was to tell the simple truth, replied: "I was kissing the place where you stood so long." He did not feel that he had done anything extraordinary, so he gave her this information composedly; but her face was scarlet in an instant, and he, seeing that, began to blush, too. For once, Lucy's tact was baffled; she did not know what on earth to say, and she stood blushing like a girl of 15. Then she tried to turn it off.

"Mr. Dodd, how can you be so ridiculous?" said she, affecting humorous disdain. But David was not to be put down; he was launched.

"I am not ridiculous for loving and worshiping you, for you are worthy of even more love than any human heart can hold."

"O, hush, Mr. Dodd! I must not hear this."

"Miss Lucy, I can't keep it any longer—you must, you shall hear me. You can despise my love if you will, but you shall know it before you reject it."

"Mr. Dodd, you have every right to be heard, but let me pursuade you not to insist. O, why did I come back?"

"The first moment I saw you, Miss Lucy, it was a new life to me, I never looked twice at any girl before. It is not your beauty only—Oh, no; it is your goodness—goodness such as I never thought was to be found on earth. Don't turn your head from me; I know my defects; could I look on you and not see them? My manners are blunt and rude—O, how different from yours—but you could soon make me a fine gentleman, I love you so."—Sacramento Union.

Cultivating Cherry Sprouts for Canes and Umbrella Sticks, Vienna, Austria. Courtesy S. L. Allen & Co., Philadelphia.

HOMELY HINTS.

Apple, potato and most other stains can be removed from the hands by rubbing them with oat meal mixed with lemon juice or vinegar. When the stain is quite removed wash with warm water and soap.

An excellent home remedy for a persistent nervous cough at night, is to wring a piece of flannel out of very hot water, sprinkle a few drops of turpentine on it, and put it round the throat, covering it with a dry cloth to retain heat and moisture.

Water brash is a symptom of a sour stomach. Twenty drops of aromatic spirits of ammonia in warm water, sipped slowly, will relieve the condition.

To Stir Smooth Thickening.

All housekeepers appreciate the difficulties of mixing perfectly smooth flour thickening or gravies. One of the best methods for success is to take a new wire dishcloth with a handle and keep it for a thickening stirer. Half a dozen whisks with this and your thickening is all mixed, much smoother than you could possibly do it with a spoon. Hold the stirer for a moment under the faucet, hang on the drier and it will require no more washings.

The Way to Saute.

To saute anything means to dress it quickly in a small pan with a very little butter, oil, lard or dripping, doing one side at a time.

Two spoonfuls of oil will be enough to saute a small chicken in. The art of sauteing well consists in doing it quickly to keep the gravy and succulence in the meat.

It is an economical mode of dressing some kinds of foods. It is very different from frying, which is really cooking in hot fat, and requires a much greater quantity of the oil, butter or fat for its performance.

Ingrowing Toe Nails.

Pain from an ingrowing toe nail can be very much relieved by cutting the nail straight across, or even hollowed in the center; place a whisp of cotton under the edge of the nail where it cuts the flesh, and wet with peroxide of hydrogen. If the nail is hard and stiff, file it down the center until it is very thin and pliable, as this relieves the pressure upon the sides.

HOW TO POLISH MISSION FURNITURE.

If mission furniture, with the dull finish, loses its smooth surface and characteristic waxy appearance, do not despair and send it to the renovator. Take a pound cake of common floor wax and rub it over the surface until the finish is restored. If you have no floor wax, use beeswax, and if you prefer something made especially for the purpose you can buy liquid preparations, one of which will remove the old finish, leaving the table top or other object ready for the application of the other substance, which will duplicate the original finish.

The sugar factory at Manzanola, Colorado, received over 140,000 tons of beets last year and produced over $2,000,000 worth of sugar.

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3¼ x 10 Skeins
28&30" Wheels
4 & 5" Tires
Agents Wanted Write us for Complete Catalog
ARNOTT & COMPANY, Los Angeles, Cal.

The cow that has lost her "cud" is really in a bad fix. If her owner could permanently lose his it would mean more for the other members of the family.

The Produce Markets

Los Angeles Markets

Butter.

LOS ANGELES, March 25, 1908.

Butter shows another 2½ cent decline and is now at 47½ for extra creamery. The general condition is fairly firm with liberal receipts.

Creamery ex per roll	47½
Firsts	45
Dairy	45
Cooking	30
Eastern	50
"Butterine"	15@20

Cheese.

California Anchor	18
Northern fresh	14
Eastern singles	17
Imported Swiss	29@30
Tulare flats	15@15½
Domestic Swiss	19
Oregon	18

Eggs and Poultry.

Eggs are surprising every one and show a very firm condition with constantly advancing price. A two cent raise is noted during the week and all offerings are quickly picked up.

Eggs local candled	19
Eggs case count	17
Northern candled	19
Case count	17

Poultry remains practically as last week.

Hens per lb	15@16
Young roosters per lb	15
Fryers	22
Broilers per lb	24@25
Roasters	18
Old roosters	8
Turkeys	15
Geese	13
Ducks	15
Squabs	1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds	5¾
Prime steers	4½
Heifers	4
Calves per lb	4½@5
Sheep ewes per head	4.75
Lambs per head	3.75@4.25
Wethers	5.50

Potatoes.

Potatoes are much the same in quotation as last week, but the market is exceptionally weak. Some sales.

Highlands	90@1.00
Early Rose	1.70@2.52
Salinas	1.25@1.50
Sweet potatoes per sack	3.25
Sweets Northern	3.00@3.25
Oregons	1.40
Idaho	1.25
White Rose	1.25
Watsonvilles	1.25
New potatoes by lb	5

Onions.

Australian Browns	3.50
Bermudas per crate	3.00
Oregons	4.00
Minnesota	3.50
Garlic	15
Ohio	3.75
Colorado red	3.50
Nevadas	4.00

Vegetables.

Artichoke per doz	75
do Jerusalem box	75
Asparagus per lb	12
Beets per doz	40
Bell peppers per lb	25
Beans limas per lb	10@12
Beans green	12@15
Beans Yellow	5@8
Brussels sprouts per lb	10@11
Cabbage sack	30@40
Cabbage red	1.50
Celery per doz	1.25@2.00
Chili peppers per doz	18
Chives per doz	1.25
Cucumbers per doz	70@2.50
Cauliflower	1.00@1.25
Carrots per doz	30
Egg plant each	30
Green onions doz bunches	20@30
Hubbard squash per lb	1@1½
Lettuce per crate	75@1.15
Mushrooms per basket	1.75
Pie Pumpkins	1½
Peas sugar per lb	4@5
Parsley	30
Parsnips	35@40
Rhubarb per box	1.50
Radishes per doz	15@20
Salsify	40
Spinach per doz	15
Turnips doz bunches	30
Tomatoes per box	1.25@2.00

Citrus Fruits.

Navels fy	1.60@1.75
Navels ch	1.25@1.50
Tangerines	1.50
Culls	40
Grapefruit seedless	2.50@3.00
Grapefruit seedlings	1.75@2.00
Lemons fancy	1.25@1.50
Lemons choice	1.00@1.25

Fresh Fruits.

Bellefleurs	2.00@2.25
Baldwins	1.50@1.75
Pippins 4-tier	1.50@1.75
W W Pearmains	2.00@2.30
Colorado Jonathans	3.00
Cal Ben Davis	1.75@2.00
Loquats per lb	9@10
Persimmons	5
Raspberries	25
Strawberries	8@12½
Extra fancy	15

Dried Fruits.

Apricots	18@22
Evap apples fy per lb	11@12
Figs loose	7
Peaches	11½@12
Pears	16
Nectarines	16
Prunes	3½@5½

Beans Dried.

Limas per ctl	5.00
Pink No. 1	3.00
Lady Washington	3.85@3.95
Small White	3.75@3.85
Black Eyes	4.50@5.00
Garvanzas	5.50
Lentils	10½

Nuts.

Almonds per lb	17½
Pecans polished	16@17
Peanuts Virgina	8½
Peanuts California	8½
Walnuts No 1 SS	16
Walnuts No 1 H S	14@15

Honey.

Extracted Water White	7¼@7½
Comb W W	11@15

Hay.

Price paid to producers f. o. b. Los Angeles are as follows:

Barley No. 1	12.00@14.50
Barley No. 2	9.00@11.00
Alfalfa northern per ton	12.50@13.50
Alfalfa local	15.00@16.00
Plain oat No 1	14.00@16.00
Wheat No. 1	15.00@16.00
Wheat No. 2	11.00@12.00

Grain.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl	1.85
Wheat in 100-lb. sacks	1.90
Barley	1.50
Corn Eastern sacked	1.80
White oats	1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn	
Shorts	1.85
Bran	1.70
Oil cake meal	1.55
Feed meal	2.50
Rolled barley	1.90
	1.55

San Francisco Markets

Butter.

SAN FRANCISCO, March 24, 1908.

Butter has shaded only one cent during the week, but the general condition has been affected more than that indicates. A decided weakness prevails. Holders of butter are oversupplied and many sales are made under quotations.

California extras per lb	23
California firsts	22
California seconds	20½
Fresh Packing stock	18½

Cheese.

California young American fy	14
California flats fy	12
Firsts	11½
Eastern fy	17½
Oregon fancy	13

Eggs and Poultry.

Eggs are very firm and about last week's quotations, though price at first declined and is now raising.

Fresh ranch eggs	18
Eggs firsts per doz	17
Eggs second per doz	15½
Thirds	14
Hens per doz	5.00@6.50
Hens extra	7.00@8.00
Young roosters	6.50@7.50
Old roosters	4.00@4.75
Fryers per doz	6.50@7.50
Broilers per doz	4.50@6.50
Geese per pair	2.00@2.50
Ducks young	5.00@7.00
Turkeys per lb	14@16
Pigeons	1.00@1.35

Live Stock.

Steers No 1	8½@9
Do second quality	7½@8
No. 1 cows and heifers	6½@7
Hogs 80 to 200 lbs	5¾@6
Hogs 200 to 300 lbs	5¼@5½
Calves per lb	5@5½
Lambs	6½@7
Wethers No 1	5½@6
Ewes No 1	5@5½

Potatoes.

River Whites	50@75
Oregon Burbanks	85@1.00
Lompocs	1.00@1.30
Early Rose	1.25@1.35
River Reds	1.35@1.40
Salinas Burbanks	75@1.15
Sweets per ctl	3.00
New potatoes per lb	3½@4

Vegetables.

Artichokes Jerusalem per box	75
Asparagus per lb	5@10
Celery per doz	35@50
Cucumbers per doz	1.00@1.50
Chili peppers per lb	15@17½
Bell peppers per lb	10@15
Beans Limas	12@15
Egg plant per lb	10@12½
Green peas per lb	6@7
Squash per box	50@1.25
Marrowfat squash per sack	60@75
Mushrooms	75@1.25
Hubbard squash per sack	60@80
Rhubarb per box	1.50@2.00
Tomatoes local	1.25@1.75
String beans	12½
Garlic	10@15

Onions.

Oregon yellow	3.75@4.00
Eastern	3.25@3.50

Citrus Fruits.

Navels fy	2.00@2.25
Navels ch	1.75@2.00
Grapefruit seedless	2.50@3.00
Grapefruit seedlings	1.00@1.25
Lemons	1.50@2.50
Limes	6.00@6.50

Fresh Fruits.

Newtons	1.65@2.00
Spitzenberg	1.75@2.00
Pomegranates per box	1.00@2.50
Strawberries per crate	2.50
Aligator pears	1.75@2.00

Dried Fruits.

Apples (evap.)	5¾@7
Apricots per lb new	15@19
Figs white	2¼@3½
Nectarines	10@13
Plums pitted	12@15
Peaches	8@10
Pears	7½@10
Prunes 4 size bag basis	3¼@4

Beans Dried.

Limas	4.40@4.60
Pink	3.00@3.10
Small white	3.60@3.75
Large white	3.45@3.60
Lady Washington	3.45@3.50
Black Eyes	3.25@3.50
Red Kidneys	3.20@3.40
Garvanzas	4.00@4.25
Bayo	3.00@3.10
Horse beans	2.25@2.40

Hops.

Hops per lb	4½@5¾
Hops old fancy	1½@2¼

Nuts.

Nonpareil	13@13½
Ne Plus Ultra	1½@12
Walnuts No 1	13@13½
Hardshells	12@12½

Honey.

Clear white comb	16@17
Amber	12@15
Extracted	7½@8
Beeswax No. 1 per lb	26@27
Beeswax No. 2 per lb	23@25

Hay.

Choice wheat hay	15.00@16.50
Good wheat hay	14.00@15.00
Other grades same	11.00@14.00
Wheat & oat	10.00@15.00
Tame oat	10.00@14.50
Wild oat	9.00@12.50
Stock hay	7.50@@9.50
Alfalfa	9.00@13.50
Straw per bale	50@.90

Grain.

Wheat No 1	1.57½1.60
Barley No 1	1.37½@1.40
Corn large yellow	1.60@1.65
Oats white	1.52@1.57½
Oats red	1.70@1.75

Feed Stuff.

Bran per ton	30.00@31.50
Feed cornmeal per ton	33.00@35.00
Cracked corn per ton	34.00@36.00
Rolled barley per ton	28.00@30.00
Oil cake meal per ton	38.50@39.00
Cocoanut cakes per ton	27.00@28.00
Middlings	32.00@35.00

The cultivation of sisal hemp in the Bahamas is steadily increasing. The area now under the crop is officially reported as 25,000 acres. The fiber produced is said to be of good quality and strength.

State Veterinarian Keen is appealing to county horticultural commissioners to aid in the dipping campaign to wipe out the sheep scab pest. The State did not furnish sufficient funds to carry out this campaign.

Citrus Market

LOS ANGELES, March 24,

Notwithstanding immense ship the Eastern market is absorbin fruit at fair prices. In fact, th market is even better than "fair" dition, which it is hoped will n injured by too great shipments. output now aggregates in the n borhood of 200 cars per day.

Lemons are no better. Indiff fruit is selling so as to bring the g er nothing. Good fruit command returns. Only the fanciest shou shipped.

Shipments.

Shipments of citrus fruits sinc 1, 13,742, of which 1747 were lem To same date last season, 11,360 which 1185 were lemons.

ST. LOUIS, March 23.—Marke weak on large sized navels. Weal lemons. Fourteen cars sold, four on track. Weather favorable.

NAVELS—

Serenade T C Ft Ex Sanger
Cal. Orange Riv. Ft Ex Riv.
Lochinvar R H Ft Ex High
Belt R H Ft Ex E High
Lochinvar R H Ft Ex E High
Fiesta Riv Ft Ex Pach
Pond Lily Riv Ft Ex Pach
Blossom Redlands Mut Or
Liberty Bell Cal Cit U
Lighthouse Cal Cit U
Fiesta Riv Ft Ex Pach
Uncle Sam Riv Ft Ex Pach
Pond Lily Riv Ft Ex Pach
Cosmos S BFt Ex Yerkes
Coral S BFt Ex Yerkes
S. S. S S Ft Ex Orange
Mutual Red Mut Or
Select N W Blanchard
Triumph Cal Cit U

SWEETS—

Searchlight S S Ft Ex Orange

LEMONS—

Pet S A Ft Ex San Di
Duck S A Ft Ex San Di
Whittier S A Ft Ex Whit
Greyhound S A Ft Ex San Di
Pico S T Ft Ex Whit

R. BLOODS—

Pond Lily T C Ft Ex Sangers

HAVANNA SEEDS

Select N W Blanchard
Bridal Veil Pinkham & McKev
White Cross

PITTSBURG, March 23.—M firm on good navels. Weak on lem Thirteen cars sold. Twelve on tr Raining.

NAVELS—

Airship V C Ft Ex Santa Paula
Jasmine D M Ft Ex Duarte
Sweetheart High Ft Ex High
Yankee Doodle H Ft ExHigh
Standard Nat Or Co
Golden Orchard Ind Ft Co
Grove
Extra Choice S T Ft Ex Rosco
Goldfinch S S Ft Ex El Modena
Eagle H F Ex High
Orchard Nat Or Co
Fountain Speich & Morgan
Highlander H F G Assn
Grove

LEMONS—

El Modena S S Ft Ex El Moden

JAFFAS—

Vista Robles Hammond Orchard

PHILADELPHIA, March 23. cars navels, five mixed, one se two lemons sold. 2200 boxes Fl sold. Market higher.

NAVELS—

Sweetheart High Ft Ex	
Pointer A C G Ft Ex Glendora	
Pointer A C G Ft Ex Glen	2.56
Rialto Girl Grs Ft Co	2.60
Rialto Girl Grs Ft Co	2.49
Rossmoyne E M Ross	2.47
Sardonyx Cal Cit U	1.92
Eagle High Ft Ex	2.50
Stag A C G Ex Glen	2.79
Cosmos S BFt Ex Yerkes S	2.56
W. Highland Cleghorn Bros	2.58
Vista Bonita J A Graham	2.30

Cal Clt U	1.88

LINGS—

Bells A B Chapman	2.25
Memories A B Chapman	2.21
Vista Grs Ft Co	2.24
Robles Hammond Orchard	2.19

ODS—

Vista Grs Ft Co	[illegible]
n Memories A B Chapm	[illegible]
Vista (halves) Gr Ft Co	[illegible]
n Bells A BChapman	2.4.
oyne E M Ross	2.42
r (halves) A C G Ex	1.44

PEFRUIT—

A C G Ft Ex	2.46

ONS—

e O K Ft Ex	1.21
hunna T C C Ft Ex L C	1.21

STON. March 23.—Thirty cars
Weather favorable. Market is
Twelve cars on track.

VELS—

T Ft Ex Fernando	2.40
n S T Ft. Ex Fernando	2.20
r C Ft Ex Corona	2.50
Washington Riv Ft Ex	2.45
Sam R F Ex Pachappa	2.45
l Q C Ft Ex Cor	2.70
n Bee Q C Ft Ex Cor	2.50
ant C O G C Assn	2.75
Red O G Assn	2.70
y Queen Moul & Gre	2.60
Riv Ft Co	2.50
r Red O G Assn	2.45
Globe Riv Ft Ex	2.45
r Mt. Grs Ft Co	2.45
Queen Ely-Gilmore Ft Co	2.40

MONS—

chunna T C F Ex Lem Cove	1.15
finch S S Ft Ex El Modena	1.25
en Scepter Rialto O Co	2.20
ection Ohio Lemon Co	1.05
continental S S Ft Ex Elmo	1.55
er Q C Ft Ex Corona	2.40
Ely-Gilmore Ft Co	2.10
House	1.00

W YORK, March 23.—Twenty-
navels, two lemons, two seeds
Market is firm and unchanged
avels and lemons. It is cloudy and
ng. In afternoon sale ten navels
two seeds were sold. Market
ly on navels.

VELS—	Avg.
Cresta A H Ft Ex	$2.90
uste A H Ft Ex	2.60
etheart Highgrove Ft Ex	2.70
le Highgrove Ft Ex	2.50
il O K Ft Ex	2.60
Globe Riv Ft Ex	2.55
Globe Riv Ft Ex	2.20
D M Ft Ex	2.70
ets D M Ft Ex	2.35
le Sam Riv Ft Ex	2.50
e Seal A C G Ft Ex	2.50
l Shield A C G Ft Ex	2.45
e Globe Riv Ft Ex	2.60
l Globe Riv Ft Ex	2.30
Orange Riv Ft Ex	1.80
rich S BFt Ex	2.35
nner S B Ft Ex	2.25
ishine Orange Grs C Assn	2.55
tive Sutherland Ft Co	2.60
tive Sutherland Ft Co	2.45
cess F H Speich	2.25
lden Orchard Ind Ft Co	2.35
ss Queen Ely Gilmore Co	2.35
p	2.25
al Edmund Peycke	2.00
W Ross	2.30
lden Orchard Ind Ft Co	2.40
d Oak Tustin Pack Co	1.90
cky Tustin Pack Co	1.85
ney	2.35
ess Queen Ely Gilmore Ft Co	2.30
afton Red G O Assn	2.50

SEEDS—

sta Robles Hammond Or	1.80
sta Robles Hamond Or	1.75
d Oak Tustin Pack Co	1.70
ucky Tustin Pack Co	1.55

BLOODS—boxes—

lue Globe Riv Ft Ex	2.85
ission Bells A BChapman	2.40
ission Memories	2.30
ossmoyne E M Ross	2.20

Cream Separators, all sizes, all prices.
. J. Weber Co., 555-557 S. Los Angeles
reet, Los Angeles.

TANGERINES—

Blue Seal Riv Ft Ex	2.00
Blue Globe	1.55
Lionhead I L Lyon & Sons	1.65
Carnation Moul & Gre	1.45

LEMONS—

Watchumma	2.00
W. S. Corwin	2.60
Choice	2.25

CLEVELAND, March 23.—Weather avorable. Market is very strong. Eleven cars sold. Eighteen on track.

NAVELS—

Teal Covina Ft Ex	1.85
Cosmos S B Ft Ex	2.40
Stag A C G Ft Ex	2.60
Puritan S B Ft Ex	2.55
Golden Flower Red G O Assn	2.55
Jasamine D M Ft Ex Mon	2.20
Coral S B Ft Ex Yerkes	2.20
Pointer A C G Ft Ex Glen	2.50
Tallyho S BFt Ex Rialto	2.50

LEMONS—

National F B Leach	1.95

BLOODS—

Stag ACG Ft Ex	2.70
Pointer A C G Ft Ex	2.55
Stag one-half	1.40

GRAPEFRUIT—

Puritan S B Ft Ex	2.50
Tallyho S BFt Ex	2.35

TANGERINES—

Puritan S B Ft Ex	2.25
Tallyho S B Ft Ex	2.15

NAVELS—

Blue Mountain Pinkham M C	2.30
Arch C H Howarden C Assn	2.15
Corona Queen Spence Ft Co	2.30
Hawarden Hawarden C Assn	2.35
Golden Flower Reldands G O	2.55
Our Popular F H Speich	2.05

LEMONS—

Highlander High Ft Grs Assn	2.20

CINCINNATI, March 23.—Market is advancing. Weather cool. Six cars sold. Five on track.

LEMONS—

Pet S A Ft Ex San Dimas	2.45
Duck S A Ft Ex San Di	1.70
Greyhound S A Ft Ex San Di	2.20

NAVELS—

Greyhound S A Ft Ex San Di	2.45
Native Sutherland Ft Co	2.45

AN ESSAY ON THE HORSE.

The following remarkable essay on the horse is said to be from the pen of an East Indian student: "The horse is a very noble quadruped, but when he is angry he will not do so. He is ridden on the spinal cord by the bridle, and sadly the driver places his foots on the stirrups and divides his lower limbs across the saddle and drives his animal to the meadow. He has four legs; two are on the front side and two are afterward. These are the weapons on which he runs. He also defends himself by extending these in the rear in a parallel direction toward his foe, but this he does only when he is in an aggravating mood. There is no animal like the horse. No sooner they see their guardian or master than they always cry for food, but it is always at the morning time. They have got tails, but not so long as the cow and such other animals."

SYMPATHY.

A plump little girl and a thin little bird
Were out in the meadow together.
"How cold that poor little bird must be
Without any clothes, like mine," said she,
"Although it is sunshiny weather."

"A nice little girl, is that," said he;
"But O, how cold she must be! For see,
She hasn't a single feather!"
So each shivered to think of the other poor thing,
Although it was sunshiny weather.
—M. Johnson.

The annual report of the Montana Stock Commission says that this has been a most favorable year for stockmen.

LABORATORY INSTITUTE.

Continued from Page 369.

be as completely successful as had his work with the rot.

For this tribute and expression Prof. Smith expressed deepest appreciation, but called attention to the fact that Charles C. Teague of Santa Paula had been the real originator of the work. Mr. Teague had first come to him with samples of the rot, and when he informed Mr. Teague of his inability to take up the work at once because of the lack of funds in the university, Mr. Teague promptly guaranteed the amount which might be necessary to take up the investigations and made good by advancing $1000 necessary.

Mr. Powell.

G. Harold Powell's paper, which was read by Mr. Eustace, was one of the features of the institute which commanded intense attention. Mr. Powell was present, but owing to trouble with his eyes, was unable to read. This paper is in the hands of the Cultivator and will be found on another page of this issue of the Cultivator. It is worth reading.

The interest of the citrus grower in the Pathological Laboratory by C. C. Teague of Santa Paula will appear in full in the Cultivator.

J. H. Reed of Riverside, in his address on "How May the Results of Scientific Investigation Be Most Effectively Applied in Practice," spoke of the long fight necessary in order to secure the establishment of this laboratory and the citrus experiment station at Riverside. For the laboratory he gave credit to Mr. Jeffrey as being one of the first to suggest it as being one of the needs of Southern California. As to the securing of the results for the ordinary farmer who is hard to reach and seldom attends these institutes we will refer more at length later.

A Valuable Session.

It was one of the most valuable institutes ever held in Southern California, and, unfortunately, excepting as many of its features will be published in newspapers, the benefit will be far less than it should be for the important mass of information as was there given. The Cultivator has picked out only a few of the good things which it will tell to its 12,000 readers, but the inspiration of hearing such practical men discuss questions of such vital importance was had by only the 150 to 300 people who attended. These institutes should be attended by such numbers that no building could be had large enough to contain the audience.

It was remarked during one of the sessions that the men who needed the inspiration of such a meeting were not there. The progressive and advanced thinkers among our fruit growers and farmers were there giving of their experience and inspiring each other to still greater effort to advance the industry which is the backbone of the nation. The point was several times made that no matter how choice a product might be grown or packed by the fruit grower, no matter how tasty and attractive the package, its price in the market must be always dragged down by the indifferent fruit often sent in by the progressive fruit grower's neighbor.

The educational campaign must be kept up and will be kept up until the general grade is much higher than at present and the indifferent and careless growers are crowded to the wall.

AN EVERYDAY CREED.

I believe in the efficacy of soap.

I believe that work is the best pancea for most ills, especially those of the mind, and that fresh air, exercise and sleep are the best medicines for the body.

I believe in fun and laughter, both as a tonic for the blues and as an outlet for high spirits.

I believe in the beauty of flowers, sunsets and mountains; in the music of birds and brooks.

I believe in human kindness.

I believe that an ounce of frankness and explanation is worth a pound of repentance and forgiveness, and will often prevent heartache and bitter understanding.

I believe in the hearty handshake, in hospitality, comradship, friendship, love.—Boston Brown Book.

BAILIE & BRANDT CO.

Announcement is made of a new combination in the machinery business. A new company has been incorporated under the name of Bailie & Brandt Co., to continue the business formerly conducted by Waite Bailie & Co. of Los Angeles. Mr. Bailie was the president and general manager of the latter company and has made gasoline engines his specialty and is thoroughly posted in all makes of same.

Mr. Brandt, for many years chief mechanical engineer of the Baker Iron Works, owing to his wide experience in machine design and installation, is peculiarly well fitted as a consulting engineer.

This company makes a specialty of buying, selling and exchanging machinery. Slightly used machinery is overhauled in their shop and thoroughly tested before placing on sale and is guaranteed the same as new machinery, although sold at a much lower price. This fills a long felt want in Southern California as many purchasers who formerly feared to buy any machine that had been used can now purchase from this reliable company, with the assurance of a square deal. Nothing but good machinery is handled.

Any one desiring gasoline engines, pumps, electric, mining, steam or other machinery will do well to consult this company before placing their order. Traction engines with gasoline motive power and other new machinery are also constructed, and any one can get more information by calling at 943 North Main Street, Los Angeles, where the office, salesroom and shops are located. Correspondence also receives prompt attention.

IMPROVEMENTS IN CREAM SEPARATORS.

From the very general satisfaction derived from the use of the better class Cream Separators for some years it has seemed that the separator had reached the point of practical perfection.

As a matter of fact, however, this wonderful implement, productive of so much profit and convenience to the dairy farmer, has from the very beginning, some twenty-five years ago, reached its remarkable development through constant evolution from one stage of capacity, completeness of separation, lightness of running, durability and general excellence into another, always quite in advance of the previous standard.

Hence it is a little less surprising than would otherwise be the case to note the many and novel changes found in the new 1908 De Laval machines, and still less so perhaps from the fact that the De Laval machines were first in the beginning and their makers have spared no effort or expense to maintain their position in the separator trade.

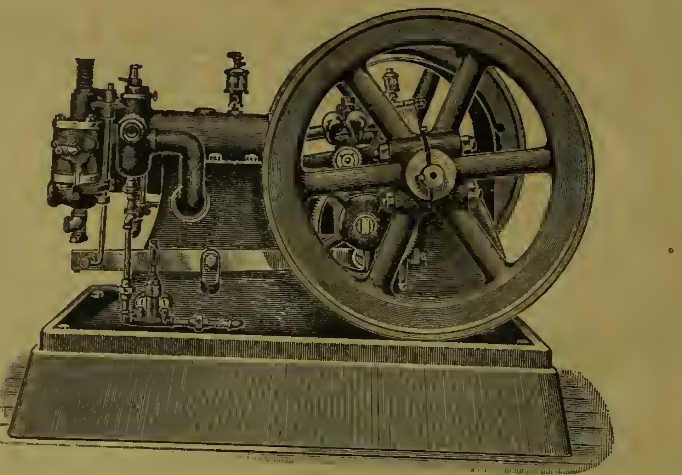
TO PLEASE THE LADIES.

Lady Customer—I wish to tell you how these shoes of mine are to be made.

Shoemaker—Oh, I know that well enough; large inside and small outside.—Philadelphia Inquirer.

Cramming is a system of artificially feeding young fowls, either by hand or machine, for the purpose of putting on extra flesh, three weeks being the usual course.

Alamo Engines



Gas Engines Like automobiles have been greatly improved in the last two or three years. When buying an engine don't buy an antiquated model. Buy an engine that embodies all the latest improvements. THE ALAMO is a modern distillate engine.

SEE OTHERS, BUT DON'T BUY UNTIL YOU'VE SEEN AN ALAMO. DROP US A CARD

Norton Engine & Power Company
201-203 No. Los Angeles St. **Los Angeles, Cal.**

◆ ◆ ◆

This is a cut of the

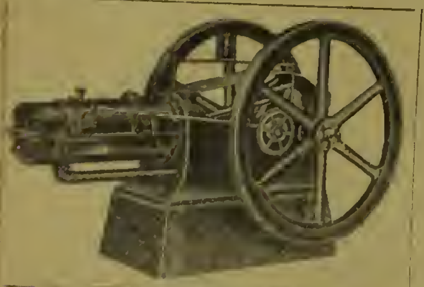
NEW POMONA DOUBLE PLUNGER DEEP WELL PUMP HEAD

for raising water for all purposes. It is highly efficient, thoroughly reliable and the smoothest running deep well pump made. It is built in three sizes from 10 to 40 Horse Power. Send for new catalog to

Pomona Manufacturing Co.
Manufacturers
Pomona, California
or C. H. Weed, Porterville, Cal.

◆ ◆ ◆

Commercial Gas Engines



The Commercial represents all that is modern in Gas Engines. Which is not only durable and reliable, but preeminently a fuel saver. Manufactured in all sizes from 2 to 150 H. P.

Write for Bulletin No. 11.

Commercial Engine Company
953-5 North Main Street, Los Angeles

Columbus Engines

Have Stood the Test
14 Years

Fully guaranteed. Most simple and economical engine on the market today. You can't go wrong on a Columbus

Columbus Engine Co.
121 South Los Angeles St.,
Los Angeles, Cal.

Samson Gasoline and Distillate Engi

Are Strong and Durable Fully Guaranteed Particular. We ma plete Irrigation Outf

Samson Centrifuga
Are the Best

Enlargement of o makes it possible f make prompt delivery

Send for our new and estimates.

Samson Iron Work

Office and Fact
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Stockton, Cal

Branch: 920 J St , Fresno

553 S. Los Angeles St. Los

Olds Complete Po Spraying O

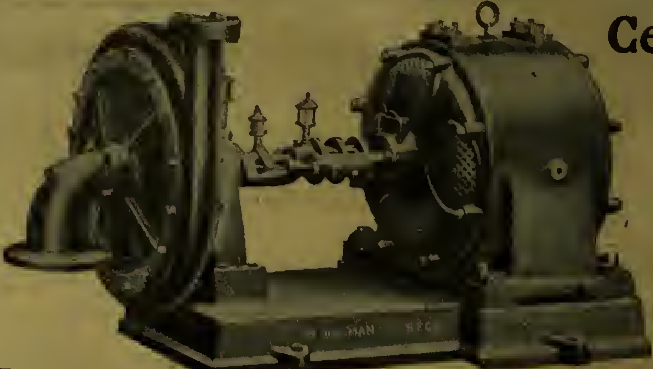
Equipped with their air-cooled en which is a great advantage, mak much lighter and easier to ope Send for circular and Price List 6

The Compressed Air Machinery Company
Dealers in All Kinds of Machinery
34 to 40 Jessie St., San F

The Callah Oil Engine

The Highest Grade Made. Won First Sacramento and Porterville Fairs. Large always on hand. Send for Pump and Catalogues.

G. W. Price Pump Co
Main Office, 33 Stevenson St. San Fr
BRANCHES — Sacramento, Visalia, Port
Works: 16 to 30 Jessie Street, 23 to 59 Ecker Street, 27 to 37 Stevenson Street, San Francisc

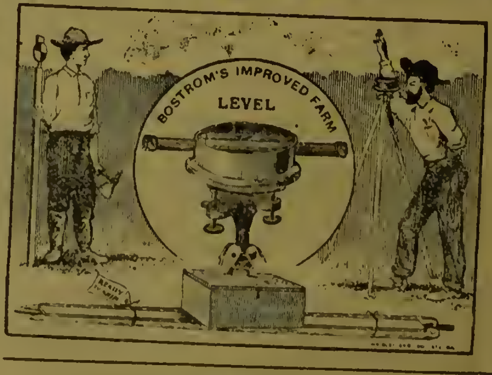


Centrifug Pumps

For high or low
Direct Connect
Belt Drive
Highest ob
efficiency

Krogh Man'f'g. C
127 10 133 Be
SAN FRANCISC

Send for Ne alogue No. 5 issued.



BOSTROM'S IMPRO FARM LEVEL

Used for Irrigation and d work. Cheapest and best le invented for farm use. H latest patented improvemen simplicity and usefulness. operated by any one. Pri cluding telescope tripod and rod $12.50.

PALACE HARDWARE COMP
456 Golden Gate Avenue,
Francisco.
Coast Agents. Send for Cir

FREE THIS WEEK

How would you like to read about the mechanical points of engines? If interested send for our booklet "The Gas Engin its Mechanical Features."

Federal Gas Engine Co.
567 Mateo St., Los Angeles, Cal.

National Wood Pipe Company

Machine Banded Stave Pipe, Continuous Stave Pipe
Made from California Redwood **WOOD PIPE** or Selected Puget Sound Yellow Pine
Northern Office, Olympia Washington
San Francisco Office, 268 Market St.
Los Angeles Office, Cor. First and Spring Sts.
Salt Lake City, Utah, Dooley Block
Prices, Specifications, Hydraulic Data and General Information gladly furnished upon requ t

California Cultivator

Published Weekly

One Dollar a Year

Angeles April 2, 1908 San Francisco

olusa County Products Are Various

Sheep on the Plain West of Maxwell

A Field of Beans

Before He Bought a Tubula

This Man Used to Carry Half Ton of Butter to His Hogs Every Year

THAT'S what Mr. McKerrow did for twelve years previous to 1903. Then he bought a **Tubular.** When he discovered how wasteful he had been with cream, he says that he felt like "kicking himself." Listen to him:

Herkimer, New York.

Gentlemen:—Did you ever feel like kicking your own self? I have felt like that every time I think of what I have been throwing away for the last twelve years. **Six tons of butter carried to the hogs in that time!** I made 315 pounds per cow in 1904, deep setting; 368 pounds per cow in 1905, using Dairy Tubular. 53 pounds per cow for 20 cows makes 1060 pounds; this, at 28 cents, makes about $300.00. I guess the Tubular has paid for itself all right. Skim-milk worth double too.

Wm. McKerrow.

This is not an isolated case. Thousands of thankful families all over the globe are rejoicing in the possession of this profit-bringing, cream-saving machine. It seems like a friend ever after the first week. Even one day's lack of use makes the dairyman or farmer miss it **tremendously.**

Ten Things a Tubular Surely Does.

1—Runs daily for months and months without a hitch. One man writes that in three years he paid out 40 cents for repairs.

2—It skims so clean we guarantee it to leave only one-half of that left by any other machine.

3—It turns easily requiring one-half the power needed by other machines.

4—It will run one-half longer without clogging than any other machine.

5—It delivers one-half less froth in cream than any other separator.

6—Needs only a tablespoonful of oil twice a week.

7—It requires little attention from the operator because every part is thoroughly tested and inspected by experts at our factory before shipping.

8—It requires one-tenth the time in washing required by any other separator.

9—The receiving can is lowest of them all and most convenient to clean and adjust.

10—A Tubular causes you no worry, fuss or muss. It's just a tried and true workman that is always on time; always sober.

A Tubular Will Pay for Itself

We don't care where you live. If you own eight or ten cows you can use a Tubular and pay for it in cream saved in a year. Buy the easiest machine to fill, to turn, to wash. A separator that skims clean, needs next to no repairs and saves you fuss, worry and trouble. It would pay to sell one of the cows and buy a Tubular.

Putting in Milk

No high lifting, no slipping milk pail and lost profits with a Tubular. The waist-low can solves the problem. Skimming is fun for the whole family from the six year-old up. It is a pleasant anticipation because the exercise is not exhausting and the operation is without fatigue.

This is the way one man views the "high up" kind:

"Gentlemen:—To say that we are pleased with our Tubular is putting it mildly. We have used a disc-filled, bucket bowl for several years. We find that we have been losing quite a percentage of cream besides **'climbing up to the top of the house and pouring the milk down the chimney.'** For ease of operation, rapidity, and thoroughness of separation there is no comparison between the two."

Turning a Tubular

All working parts run in oil. Every part is adapted so perfectly to the other that once got in motion it's a joke to keep the bowl spinning.

The oil compartment cannot possibly leak nor at any time allow the oil to spatter on or contaminate cream or milk. The machine takes care of itself and does not worry anyone with clogged oil holes or leaking bearings. Thus your cream and butter are free from the remotest possibility of ever being rejected because of machine-grease, odor or suggestion of rancidity. This one feature saves you much worry.

Washing a Tubular

Only three pieces in the bowl to wash, all easily gotten at. Nothing to rake and scrape your knuckles nor skin your wrists and fingers.

One man who owns a "bucket bowl" machine allows it to stand idle in his dairy house That means $225 rusting! He uses a Tubular instead. Why? "Not for all the money in the Universe" says he "will I break my wife's back, ruffle her temper or spoil her digestion by requirin her to wash twice a day those 35 'pie plates' 365 days in the year."

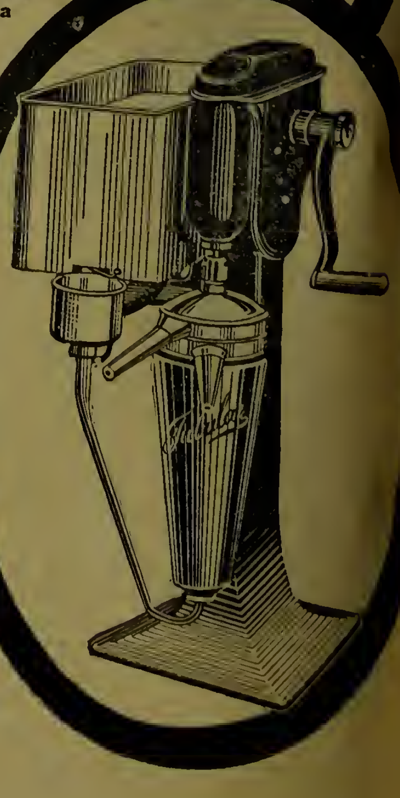
Fill Out the Coupon

We have asked you questions which we suspect you are willing to answer. If you will fill out the coupon and forward to us we will see that you get just the treatment that will make you a lasting friend of ours. We shall not force ourselve upon you to make you feel unpleasant and under obligations. All we ask is for you to give the Tubular a reasonable trial along side of as many other separators as you wish, or alone. If it does not perform as we claim, you needn't keep it.

SHARPLES TUBULAR SEPARATOR

THE SHARPLES SEPARATOR CO.
WEST CHESTER, PA.

Toronto, Ontario
Chicago, Illinois
San Francisco
California



Application for More Information About a Tubular

..............................190....

The Sharples Separator Co.

Gentlemen:—I would like to know more about your Tubular Separators. In order that you may treat me intelligently I will answer the questions below which I deem proper.

1. How many cows do you milk?......
2. Have you a Separator?.... What style?......
3. Have you ever seen a Tubular skim?......
4. Are there any of your neighbors who use a Tubular?......
5. Is there a local agent near you who sells Tubulars?......
6. How far are you from a railroad station?...... What is its name?..................
7. Send me your catalog No. 260, and other free literature explaining all about the Tubular.

I understand that this coupon with my signature attached does not obligate me in any particular. I am filling out this coupon to obtain information about Tubular Separators.

Name ....

Address ....

Town........... ...State......

alifornia Cultivator

X—No. 14 Los Angeles, California, Thursday, April 2, 1908 Subscription $1 a Year

e University At Large in the State

n Address by E. J. Wickson, Dean of the College of Agriculture the University of California and Director of Experiment Stations, at the Annual Banquet of the Fresno County Chamber of Commerce, Fresno, March 25, 1908

:VER I come to the metropolis of
an Joaquin Valley I feel more keenly
pportunity which the princely Kearney
ows open to the University and the
the same splendid legacy impresses
stitution, my thoughts always turn
ersity and its relations to the State
enerously maintains it and provides
th and development both by legisla-
iation and private gifts.

story of the University, the spirit of
ent and administration and its present
icies and methods give assurance that
ion will manifest the capacity for
nd achievement which the people of
nanifestly desire in their greatest ed-
nterprise and are willing generously
for?

practical question of the utmost im-
the State and deserves a careful and
s answer. For this reason I accept
vitation which you give me to speak
first of a long and successful series of
erings, under the auspices of your
Commerce, and choose as my sub-
conceive to be a matter of funda-
ortance in all lines of State develop-
e University at Large in the State."

r University.

the University is now forty-eight years
rth and forty years from its baptism
monwealth, and although during that
s grown into new ideals, spirit, policy,
d into new conceptions of the very rea-
s existence, there are still too many
pon the University as a sort of giant
ving instruction in eminently safe and
subjects which peacefully died and
tly buried centuries ago—thereby dis-
sort of canned culture which either
e appetite for the actual things of
t day, or impairs the digestion there-
ects activity and generally unfits for
and achievement in life work, at least
ological and industrial lines.

ot indulge in argument against this
ion except to assert the claims: first,
e is not derived from dead languages
t philosophies alone; second, that cul-
d from honest study and good teaching
table subjects, either old or new, does
sound thinking and effective action
s of human effort; third, that the Uni-
es, in fact, bring forth from its treas-
both new and old, and, by interpreting
light of the other, impart wisdom and
fficiency. Let me enforce the last
by argument but by a few from many
stances from the recent public services
onnected with the University of Cali-

e nation sought men to attack the new
f insular possessions in the eastern
e, a University publicist was chosen.

he State began to contemplate a new
taxation, a University economist de-

nother State planned to advance its
and at the same time provide for a
strial exposition, our University archi-
alled to design the buildings.

great State of Australia decides to undertake an enterprise in water storage and distribution which may surpass the great Assonam enterprise upon the Nile, our university irrigationist was taken to plan it.

When the State Board of Health, under recent statutes, provided two State-wide institutions, a State Hygenic Laboratory and a State Food Laboratory, both were established in Berkeley so that our experts might direct their operations.

When the fruit growers of California are forced to protest against what seem to them unwarranted restrictions upon the use of sulphur in fruit curing, and the president of the United States appoints a referee board to ascertain the exact science of the matter, one of our physiological chemists is chosen.

These few instances of the recent choice of the University men to lead in such diverse lines of advanced work should establish the claim that the University is really at large in the State and fills a sphere of influence altogether beyond the reach of ordinary academic qualification.

Organization Favors Expansion.

The broad conception of University service which the foregoing public acts imply is earnestly held by those chosen to direct and adminster the affairs of the institution and seems to be foreordained by the plan of its organization. It consists of intergral subdivisions each devoted to a special line of human learning, original research, technical activity and industry. The instinct of self-preservation, if no higher motive, forces each subdivision to strive to the utmost to attain and retain the best standing and efficiency in its own subject. The Regents of the University are widely distributed geographically an are themselves active in many lines of profssional an industrial effort. Even those who are best known for professional services, as in law and medicine, for instance, are thoroughly conversant and actively engaged in industrial affairs, either through their own or their clients' property interests and enterprises. The Regents are, therefore, qualified experts in the lines which the institution pursues, all the wide way from finance to farming, and do constantly place the most exacting tests upon the quality of University service. The president of the University is a man of the widest human interests, a keen judge of scholaristic and industrial efficiency and most broad and fair in his appreciation of educational values in all the divisions of knowledge which he is called upon to correlate and advance.

Lines of Progress of the College of Agriculture.

I have said more perhaps than I am authorized to say for the University as a whole. I take safer ground now by special reference to the part of the institution which is entrusted to my direction. The Agricultural Department of the University is now advancing in accordance with two clearly related principles, viz:

1. Specialization of subjects and workers.
2. Distribution and localization of work.

The purpose in view is to do each desirable thing in the best place and with the best attainable men and equipment. In the diverse undertakings which this department must enter upon to fitly represent and serve the agriculture of the State, centralization, except in purpose and administration, is undesirable. Both for research and for experiment and for the best special instruction as well, the College of Agriculture must not be restricted to work at the University site. Close contact must be made at Berkeley with the biological and the economic sciences, for from these comes the new truth and the new impulse to agricultural advancement. From association with the other applied sciences, also, agriculture receives direct suggestion and material help. Therefore, for maintaining its own progressive character and the diginity and quality of its citizenship, the highest instruction in agriculture must be given at the fountain head of all higher learning establishments by the State—the University itself. This is in accordance with the principle of doing a thing in the best place to do it.

Local Branches Essential.

But the University must maintain centers for local research and instruction in representative places in all parts of the State where research can be best done and where there is opportunity to achieve beneficent results by instruction locally suitable. And this, too, is only a growth of the Agricultural Department along lines which constitute an approved University policy. The University studies stars from the top of Mount Hamilton, because that is the best place to see stars; it studies marine life in the waters of San Diego and Pacific Grove, because there such life best abounds; it studies law and medicine in San Francisco because there the multitude multiplies maladies and misdemeanors. To do everything that is worth doing in the best place to do it is, therefore, a principle which the University widely applies in its operations, and to do this it is always at home, though always at large in the State.

A striking instance of the pursuit of this policy by the Agricultural Department is to be found in the building and equipment of the Southern California Plant Disease Laboratory, which was formally opened last week in Whittier, Los Angeles county. By the liberality of the State we have secured in this laboratory a most unique establishment for plant sanitation and protection. It is probably the best establishment for this single and separate purpose in the country, and in connection with the citrus culture station at Riverside. constitutes an agency which through the work of its investigators in the best places for them to work, will return high profit to the State. In fact, tomato growers in Southern California freely say that a single demonstration already made for their benefit will be worth more to them in a year than the cost of the whole establishment. And it will do such profitable work continuously hereafter.

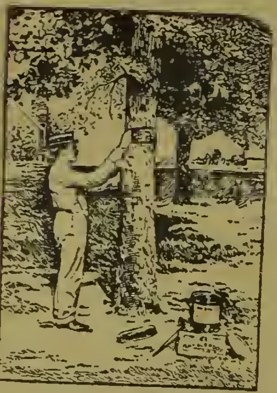
It would weary you to pursue in detail the activities of the Agricultural Department. The experiment station now has thirty-seven investigators at work at various points in the State and serving nearly all branches of our agriculture. The instruction in agricultural subjects at Berkeley is taken this year by about 140 regular and special students and about three times as many more who, though enrolled in other departments give part of their time to agriculture because they are allowed to choose for themselves under the elective system. Thus we are instructing in agriculture about 600 young Californians whose homes are in all parts of the State and who are constantly extending throughout the State a bet-

Continued on Page 407.

Trees and Vines
for profit and adornment
Roses and Plants
that please and beautify

Write for our new illustrated Catalog descriptive of the leading California Fruits, Roses, Ornamentals, Eucalypts and everything for the orchard, avenue and garden.

Armstrong Nurseries
Ontario, California



TREE TANGLEFOOT
A Sticky Preparation Applied Directly to the Bark of the Trees

Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm Wherever the Gypsy or Brown-tail Moths, Tussock Moths fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials.

THE O. & W. THUM COMPANY
Manufacturers of Tanglefoot Fly Paper
Grand Rapids, Michigan

Fruit Trees

Thousands of dollars saved by farmers by patronizing us. 50,000 Lob Ingir Smyrna Fig trees, 4 to 6 ft. in lots of 100 at $12.50; 500 and up at $100.00 per 1000.

We won the Gold Medal at the Lewis & Clark Exposition. This is the world famed Fig of commerce.

We have a large stock of Bartlett Pears, Royal Apricots, Orange and Lemon trees, as well as other nursery stock. Bed rock prices. Send in list of wants. Address

Maywood Colony Nursery, Corning, Cal.
W. Herbert Samson, Prop.

WALNUT TREES

Having about six thousand Walnut trees that have to be moved on account of close of lease, I will make special prices on them for the next thirty days. These trees are two and three-year-old Santa Barbara soft shell variety, stocky and well rooted, running from four to ten feet in height. Seed selected from one of the best orchards in Orange county. A rare opportunity to get good trees at right prices.

Geo. B. WARNER, Nurseryman
Sunset Phone Red 92
Santa Ana, Cal.

The Anaheim Evergreen Nurseries
The Oldest Nurseries in Southern California. Established in 1868.
Tim Carroll, Proprietor
Anaheim, Orange Co., Cal.

Washingtonia Robusta and Phoenix Canariensis Palms, any size from 1 to 8 feet, in large quantities.

Street and ornamental trees; Cypress and Guavas; Blue, Sugar, Rudis, Diversicolor, Robusta Tereticornis and Red Gums.

All eucalyptus and Cypress taken up with my patent transplanter, with a ball of earth around the roots and placed in rows in flats with sand sprinkled between for shipment.

Prices on application.

Nurseries and Office Located at West Anaheim (S. P. Ry.) Sunset Phone Main 413

100 Pounds of Grapes to the Vine
Raised by Ex-Postmaster Rush Stevens of Sacramento on his ranch with
Tom Lewis' Fertilizer
My Fertilizer is lower in price than other fertilizers and guaranteed to give results. I have hundreds of testimonials. Send for circular and prices.
Tom Lewis, 1916-1918 10th St., Sacramento, Cal.

Berry Plants
Himalaya and Crandall Blackberries, Burbank's Phenomenal and Loganberries, and Gardena Dewberries. For prices and information address,
A. E. Johnson & Sons
San Gabriel, Cal.

Deciduous Fruit Cu

FERTILIZERS FOR WALNUTS.

A FEW years ago there was a general movement far into the the interior valleys to plant walnut trees. Some land has been planted that is not particularly adapted to growing the walnut and some of the owners have been inquiring about fertilizers for walnuts, thinking that an application will set them on a par with the best walnut lands. It would be our advice not to plant walnuts on poor land, but if a good head of water can be run onto it, plant it to alfalfa. This will enrich the soil more cheaply than can be done by any other method. Deep sandy loam is an ideal soil for the walnut and if the climate is right and water is to be had in abundance such soil will produce walnuts for many years without the necessity of applying fertilizers.

Walnut trees are so deeply rooted that any fertilizer that will be available to them must be in a soluble form so as to be carried deep by irrigation and rain waters. Analysis, however, shows that the chief ingredient to be replaced is nitrogen. The nitrates are easily soluble, which makes their application an easy matter.

The fresh nuts without hulls contain about one per cent of nitrogen and about seventy-eight hundredths of one per cent. of ash, which means all the potash, phosphoric acid and other minerals that are taken up by the entire nut. The fresh kernels contain about two per cent. nitrogen and fifty-two hundredths of one per cent. of ash. The hulls which are returned to the soil contain about 1.75 per cent of ash and only .15 of one per cent. of nitrogen. This shows that nearly sixty per cent. of the minerals are used by the hulls which are returned to the soil.

When phosphates are present in the soil and humus is wanting, little benefit is derived from them. Nearly half of the available potash and phosphoric acid is found in the humus. The humic acids keep these ingredients in an available form, dissolving them out. The planting of legumes will furnish to a large extent the nitrogen necessary for the trees and nuts, and perhaps all that is needed. A light dressing of potash and superphosphates will, with the green manuring crops be all that is necessary to keep up the fertility necessary for this crop.

Walnut trees are particularly well adapted to growing green crops as they are deciduous and the plants have the full sunlight the entire winter. It is not possible to sow the green manure seed as early as in the case of orange groves unless the grower is willing to have the crop tramped during the picking of the nuts. This may work out in practice and be an economical way to proceed. It depends on how much the green stuff stands tramping on during the harvesting of the nuts. The plants will be sickly and weak as they must start in the shade if planted as early as September, and together with the tramping at harvest time the addition of a partial smothering when the leaves fall, there may be little to show for the labor and expense of early planting. These things, however, do not always work out according to theory and there may be considerable advantage in September planting.

At this season of th
quite apparent that the
nitrate of soda will giv
sults than either of th
ments that we apply, un
of green stuff is to be tu
J. A. Mills.

CULTURE OF THE LO

At the meeting of the
cultural Society in Portl
A. M. Aspinwall, of Br
paper on the Loganberry,
the following is taken:

"There are several wa
gating the Loganberry.
is to bury the ends of t
the fall several inches u
During the fall and win
ends strike root when,
warm days of spring, the
from the parent vine and
ed. I very much prefer
tips to transplants a yea
old. A much larger per
live, and the canes pr
tips will be stronger.

"The cultivation of the
naturally divides itself
branches. First, growing
home use, and, second,
cial purposes.

"Every family may ha
ful supply of this lusciou
a half dozen plants are
properly cared for. Even
the berry for market the
pied by the vines need n
to keep an average family
ing the harvesting seas
yielder the Loganberry has
On good soil and with pr
vation an acre of the vine
an average yield of 500 cra
ing 24 pounds each, or a t
tons of berries. Under m
able conditions, eight ton
is not an uncommon crop.

"Having decided the obj
tent of your planting,
is to select a suitable loca
level tract is preferable t
because of the greater ea
tivation and trellising an
likelihood of the winter r
ing the soil. Select a deep
loam, if you have it.
and berries will then r
maximum growth. A clay
to be preferred to one of
gravelly texture because
ed moisture within reach
while the berries are m

"Any good soil with a
of fertility, however, w
average crop of berries
handled. Good returns
from sandy or gravelly
there is enough fertility
grain crops profitably.

"Drainage is importan
water from standing on t
If the water does no
anturally, tile draining
provided.

"In planting, I prefer
April if the condition of
right. The oncoming
will call the young pla
life, causing them to b
rooted before the dry se

"Do not make the
crowding your plants. Giv
plenty of room to secure the n
sary air, sunlight, and soil in w
to spread their roots. I prefe
set the plants in rows eight
apart each way, making 680 p
to the acre. Most of the cultiv
can then be done with plow, ha
and team.

"The first year the vines wil

ıch growth and do not inter-
erially with their cultiva-
il about the 1st of August,
hich they frequently shoot
r 20 feet or even more before
The second year about one-
a crop may be expected.
es should be trellised during
'ious fall.
your trellis substantially.
d, strong cedar posts and set
ɔt over 32 feet apart in the
ɔws. Securely fasten to these
ɔr four No. 12 galvanized
spacing them equal distances
Now train each vine separte-
he wires and see that each
rries its full share of the
If practicable have the trel-
ws running north and south,
e vines are much better pro-
from the winds and ripen
venly as they get both morn-
i afternoon sunshine.
general rule, the Loganberry
ut little pruning. Do not
t until more than a dozen
ppear in a hill and then re-
nly the weaker ones. The
ill be larger and quality of
nproved if the pruning shears
ot used too freely. A fair
of foliage on the vines for
is an advantage.
ivation should be thorough
equent. I prefer to plow both
fall and spring, turning the
against the row in the fall,
it is left undisturbed till
when I turn it into the cen-
ween the rows, then use either
sk or the springtooth harrow
n July or at least until har-
begins. Start the cultivation
spring as early as the ground
worked and go over the sur-
t least once each week to re-
s much moisture as possible.
vill add greatly to the health
gor of the canes and is of the
mportance in the development
ıll crop of large, firm berries."

GGESTION OF PRUNING.

ing is a natural process.
eds of small limbs on the trees
ery year and thousands of buds
before they have an opportu-
ɔ develop into branches. This
ure's simple method of prun-
nd she never interferes with
ıtural shape of the plant nor
off large limbs, leaving im-
scars to heal over or long
to die back.
, following nature's example,
es her methods according to
nstances and object to be ac-
ished. And, it may be said,
t is impossible to attempt to
ct an individual to prune a
tree and expect him to prune
e rest exactly the same; for
are no two trees alike and the
next tree may be so unlike that
l have to be pruned entirely
nt. The operator should, first
, know what he is going to
for before a single limb is cut
le should study carefully the
n front of him and then proceed
complish the particular object
w, and so one cannot prune all
s trees alike. Each tree in the
rd must be pruned and treated
endently.
pruning, it is well to keep in
not to remove any more limbs
are absolutely necessary and to
, as much as possible, removing
large limbs. The larger the
removed the larger will be the
ds and the longer these will
to heal over. The healing of the wounds is done by the cambium layer, which is the active growing tissue of the plant cylinder, pushing itself over the scar mainly from the upper side. If the wound is small it will heal over during the growing season; if it is large it may take one or more years. The longer the wound remains exposed the more the wood will crack and dry out.

All the limbs should be cut off as close to the trunk or larger branches as possible. It is not infrequently seen where pruners leave stubs from half an inch to three or more inches in length projecting out. These stubs never heal over and should not be left. In some cases they may cause injury to the tree as they die back into the wood of the main branch. If the trees are headed-in always cut back close to a bud, for the reason that if a stub is left above the bud it will die back.

Dressing for wounds is some times necessary, especially for the larger ones. The dressing used ought to check the weathering of the wood and prevent any decay. A wound dressing should be durable. Paint and tar are very common materials, but lead paint is the best all-around dressing for common pruning wounds.

When to prune is another common question. There are a great many ideas in regard to the time to prune trees. Since the healing of the wound depends upon the activity of the cambium it would seem, other things being favorable, the quicker the healing begins the better it is for the tree. The healing goes on faster in the spring after the plant starts to grow. Taking into consideration the healing of the wounds and the activity of the cambium the better time to prune would be in the spring before growth begins, during February and March. This does not mean, however, that trees cannot be pruned in the winter. Trees may be pruned any time after the leaves fall off, but the earlier the pruning is done in the fall or winter the longer it will take the wounds to head over.—Fabian Garcia, New Mexico College of Agriculture.

ANALYSES OF FERTILIZERS FOR CONSUMERS.

Under the provisions of Section 4 of the State Fertilizer Act, any consumer of commercial fertilizers residing in California may have analyses made at the State University in return for a nominal fee for each analysis. This fee of $2 per sample examined does not begin to pay the actual cost, but is exacted to partially pay the running expenses of the Fertilizer Control and to insure that correspondents shall not send in unnecessary samples. To properly take advantage of this privilege, persons interested should be careful to take their samples in a way that shall make them representative of the entire lot of goods. If samples are not as taken the analysis will make it appear that the goods are either of greater or less value than they really are. In one case doing an injustice to the consumer, in the other to the manufacturer.

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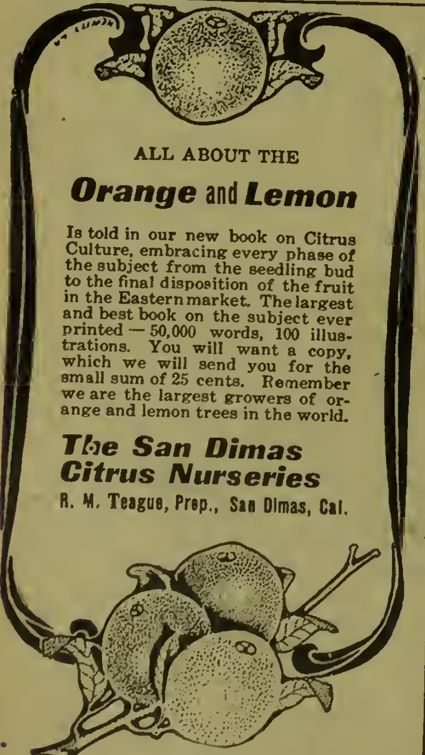

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Address delivered at the Pathological Laboratory Institute.

BY J. H. REED OF RIVERSIDE.

Like many other things of great advantage to California, the Pathological Laboratory and Riverside Experiment Station may claim a father in Mr. Reed. He has always taken a working interest in founding such institutions. He not only "Fathers" them but he "Mothers" them. This address shows his interest in them and calls for all farmers getting full value from these establishments. It is well that the audience of a few hundred which listened to Mr. Reed shall be extended, and we hope the Cultivator's 12,000 papers make Mr. Reed's voice reach much farther.—Ed.

I WANT to be allowed a few words of preface. Probably no one present looked forward to this meeting, held for the purpose of celebrating the opening of the Southern Pathological Laboratory with more interest than I have done. It is now some eight years since a committee from a then somewhat active horticultural society in Riverside was appointed to formulate an effort to have established somewhere in Southern California a citrus experiment station, where the serious practical problems of orange growers might be tried out to the finish by systematic investigation, conducted by trained experts. It is a long story full of disappointments, but each succeeding year the importance of this help from the State was more deeply felt, and the effort in a quiet way was kept up till finally the object so long looked for came in sight.

It was about this time I called on my friend Mr. Jeffrey to talk over the project. After hearing me through, Mr. Jeffrey said: "That is all right, except it is a pathological laboratory rather than a 'field' experiment station that is most needed," and we had a little friendly quarrel over the matter, each of us looking at it from a different standpoint. This difference of opinion taken up somewhat warmly by adherents of each side was finally settled in the legislature.

So it is to Mr. Jeffrey that you people of Whittier and we farmers who needed it, owe the movement that has resulted in the establishment of the Pathological Laboratory.

Well, what I want to say is that I am sure each party to the controversy agrees that the outcome giving us the citrus experiment station inaugurated at Riverside a year ago and the Pathological Laboratory, formally opened here at Whittier yesterday, is far better than either had planned. So, while I greatly rejoice in this establishment of our Citrus Experiment station, from which I expect most important results to our great industry, I hail with real satisfaction the permanent housing and fine equipment of the pathological plant, from which I believe will come equally important, not only for the citrus industry, but to other important horticultural interests of Southern California.

Average Farmer Loses.

Now the question is, how are we to get the largest benefit from the considerable expenditure this State has made in establishing these institutions and providing for the expert work of the scientists connected with them. That larger aggregate results have come from both national and State agricultural investigations and experimental departments, no one intelligent in the matter questions. But no one conversant with the facts questions less the deplorable lack on the part of the average farmer of utilizing, except in a very general way, even the most practically valuable of these results. In most agricultural districts are a few enterprising farmers always alert for anything that promises improvement over present methods, and are quick to utilize them, while the majority cling to their old methods.

Powell Investigations.

Perhaps there has been no more striking illustrations of this fact than in Mr. Powell's investigations into the causes of decay in handling citrus fruits. While these investigations were exceptional in at once changing long standing methods of a few prominent orange growers and to a certain degree of influencing the industry generally at first the largest values from them were secured by a comparatively few. In spite of this fact that these investigations quickly and definitely showed that an orange injured from any cause was subject to decay before reaching the consumer. In spite of the object lesson before them of certain growers accepting this demonstrated fact were by utilizing it, making a clear saving by it alone, amounting from 25c to $1.00 per box, we saw a large majority of our growers persistently handling their fruit in the old way at a loss of hundreds of thousands of dollars annually.

Pathogolical Investigations.

I am not so conversant with results following successful investigations of our plant pathologists which have demonstrated how diseases may be prevented or cured, but I have been told by scientists who have worked, for instance, on the pear blights, that this disease, so fearfully devastating one of California's important industries could at least be controlled if growers generally would make use of preventions and remedies scientists have shown to be successful. That this is equally true in efforts of scientists to combat other diseases, I think is not questioned. In fighting our insect pests, did our orchardists generally and persistently use the information that scientists and practical experimenting have fully demonstrated, our battle would be speedily won.

The actual loss to our horticultural industries from the lack of generally utilizing fully demonstrated laws of cultural methods and soil fertility would be difficult to estimate. Hence how best to secure a more general utilization of valuable results of scientific investigation of our agricultural problems, becomes a most serious consideration.

Only Well Begun.

In this brief address I can but touch upon some of the ways which seem to me may be most helpful in securing this end. First, I am fully persuaded that the government's scientist's work is but half done when he has demonstrated that the results of his investigations may be practically valuable to the farmer if utilized. I remember very well when pleading for the citrus experiment

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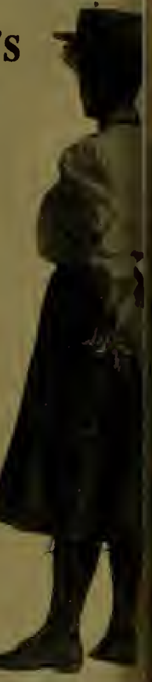

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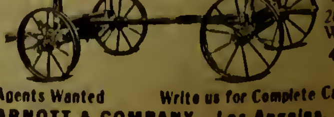

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eceivlng a rather dampening ım Dr. Hilgard, insisting that ıe department by investiga- ; determined our soil condi- 1 the requirements for in- fertility which information ı made known through lec- d bulletins within the reach one. It was not up to the sts to make use of these re- f scientific work, intimating department had done its

ince experience has amply that successful work, made through bulletins only, does ıre the results desired, except ited extent, but that when an d method has been found by c research, it must not only onstrated that it is an im- nt, but it must be put before ner and kept before him till the alert exception, but the d file are persuaded to make t. Till this is done the State tion do not receive adequate sation for their expensive ef- r the betterment of agricul- nce they reach but compara- few, and they of those who elp the least. And this fact g more and more appreciated.

tton Boll Weevil.

ı the boll weevil threatened ton industry a few years ago ientists were set to work to ans of staying its ravages, the gton department did not stop ing that a change of varieties hanged methods of culture largely accomplish the object, t once established little co- ve experimental farms, scat- over the affected districts, the results of its investigations emonstrated to the average grower, and the better meth- re quickly and generally ap- ith the result that a portend- astrophe to the greatest agri- l industry of our country was , as it could not have been scientific investigation alone.

the Ground.

ıave a valuable illustration of ciency of this supplemental tration of expert work in re- om Mr. Powell's investigations uses of orange decay. While to this work as Mr. Powell's, ot ignorant of, nor do I forget t that his able corps of assist- ıs had in it.

said that the great lawyer into office Gov. Hughes went when g man had a way of watching aduates of great law schools, ıen he found a specially bright man enlisted him in his

ice that Mr. Powell has a like of keeping in touch with our agricultural schools, and pick- the best men they turn out helpers. He could not have ıis work that is saving our in- a million dollars a year with- e expert help of these young

ng the opportunity of keeping hat in touch with the work ıe first, and quickly appreciat- e tremendous practical value ven in its early stages, I was ıat impatient to have the esults presented to growers. . Powell would say, "Wait; st be absolutely sure of our before any statements are ıt." Later, results were made through the press by bulletins, attracting considerable attention. But in spite of these reports plainly and definitely showing the enormous loss necessarily attending the ordinary manner of handling our fruit, and how it could be easily stopped, a bare handful of growers promptly profited by them, a large majority persisting in the old wasteful methods. Last season Mr. Powell began to call managers of associations and others at various orange growing centers together, putting to them in his forcible way the actual results of his investigations, and showing how they could be practically applied in the orchard, the packing house, and in transit. The effect of these face-to-face talks with illustrations was immediately felt, and enormous in results. During the last interim between seasons, scores of packing houses were largely or entirely remodeled. Extensive plants for precooling are being built, trained picking crews under intelligent supervision are now in many orchards, in place of cheap contract work by the box. In fact, the methods of harvesting and packing and transporting the orange product has been largely revolutionized in a twelve-month. The point I wish to make is that Mr. Powell's efforts to secure the utilization of the results of his scientific investigations has been, if possible, as important to our industry as the investigations themselves, in producing these tremendous results in so brief a time.

Beyond Estimate.

It would be difficult to estimate the actual value to this State of the pathological investigations of Prof. Smith and his aids during the past few years. An approximate amount named, even well within what known facts would justify, would seem to those not conversant with his work, but gross exaggeration. But had the results, the values of which were amply demonstrated in these investigations, and reported in bulletins, been generally applied by growers, I think no one acquainted with the facts would hesitate to say that the savings to growers directly and to the State indirectly, by reason of this scientific work, would have been increased many fold.

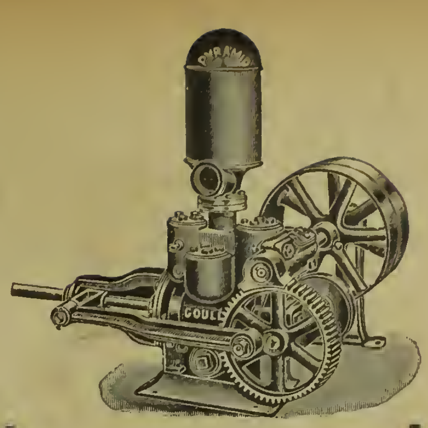
The work with the blight, which recently threatened ruin of California's great peach industry, I think forcibly illustrates my contentions. The investigations were eminently successful in finding remedies, and the successful control of the disease was remarkably prompt and general.

The Secret of the Success.

Replying to my inquiry, Prof. Smith wrote: "I think we get about every grower in the affected regions at work, and mostly with good success. This," he adds, "was largely the result of personal effort on the part of our young men who did the work, keeping closely in touch with each individual grower and following up his work during the season. Here, without doubt, we have the secret of the scientist's success in staying this dreaded disease, wherever it has appeared, and by the ordinary orchardist as well as by the few who would have profited by the results of the investigations without any after effort by the department.

The investigations by the department into the cause and remedies of the pear scab and asparagus rust were doubtless equally successful with those of the peach disease. With practical results very meager comparatively doubtless because the work was not

Continued on Page 391.



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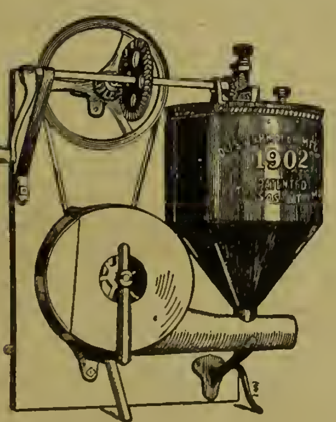

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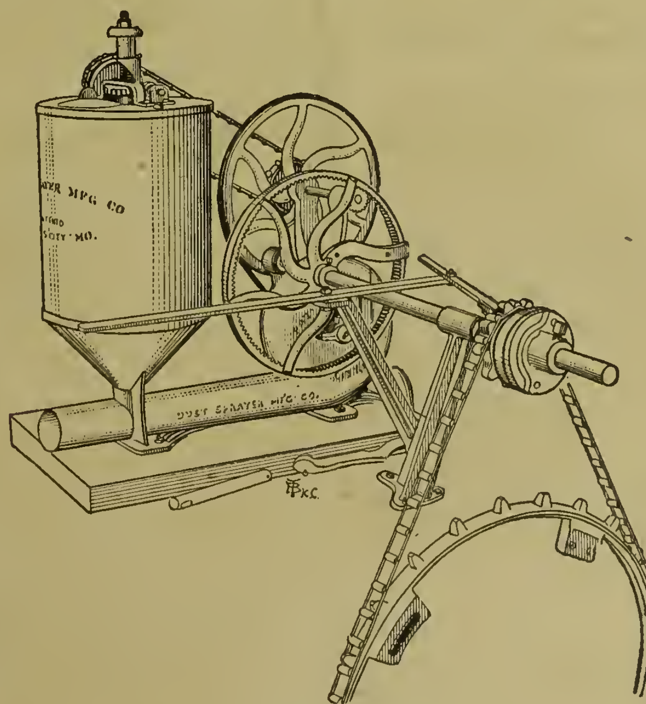

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E. G. Jndah, General Representative, Security Bldg, Los Angeles

View of Ranch house on the best Ranch in San Luis Obispo County, contains 425 acres, 200 of which is the finest sandy sediment soil, balance grain, and pasture land. Variety of fruit and nuts; magnificent grove of oak and eucalyptus; abundance of pure soft water; improvements cost $15,000. An ideal home, and at the same time a fine investment; present owner has made a fortune on it; Buyer can lease it for $4000, cash rent. Price $55,000, easy terms; could be cut up and sold at good profit; in fact, the 200 sediment should sell for $250 an acre quick. The same kind of soil in the Arroyo Grande Valley is valued at $500 per acre for seed ranches.

I also have a Ranch of 110 acres adjoining the town of Nipomo, all fine, rich bottom land, with $9000 worth of first class improvements, consisting of splendid home of 10 large rooms, 2 cottages rented, 2 fine barns, and water piped to all buildings; $14,500 takes the whole thing, easy terms. They are asking $150 per acre for the same kind of land in the neighborhood. This would cut up and sell in small blocks nicely; in fact, it is already plotted and maped in town lots, and there is a strong demand for small places of this kind of rich land. I also have a delightful country home one mile from the city of San Luis Obispo for $10,000.

San Luis Obispo County Farmers are making money, but prices of our lands are behind the times. Write me for what you want.

M. L. Curtis, San Luis Obispo, Cal.

Cultivator Order Blank

———————————— 1908

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California Horticultur

RAIN IS BADLY NEEDED.

THIS has been a dry season over the whole State, and especially in the northern counties are seen evidences of suffering for lack of rainfall. March, which is usually a wet month, has passed without any precipitation, except a shower on the first; grass which had barely started, is drying up, feed is scarce and both cattle and sheep are suffering. Grain is very short and unless April brings unexpected rains this crop will be a very short one. Trees are not suffering as their roots reach down to the ground water, so that, however other crops may fare, there will probably be a good fruit yield.

BIRDS EATING CRANE FLY WORMS.

The severe attack of crane fly larvae which, in many sections of the Sacramento Valley, have destroyed large extents of pasture, is reported to be practically over and the young grass is starting again. The worms which did the damage have now gone into the pupa stage or have emerged as full fledged flies and so have got beyond the injurious stage. During their worst period, very large quantities of these pests were destroyed by crows, thrushes and other birds which captured them in the shallow soil around the grass roots and devoured them in quantity. In some cases it is said that the birds had almost eradicated the pests and so saved the pastures.

AN EMBARGO ON ROOTED VINES.

A number of the counties have ordinances absolutely prohibiting the introduction of rooted grape vines and most of the other grape counties look askance at them. In view of the fact that there has been an almost phenomenal planting of grapes, especially the table varieties, in many of the northern counties in the past two seasons, the growers there are becoming uneasy about the Anaheim disease and phylloxera and every precaution is being taken to prevent these pests from gaining admittance into clean sections. Both vines and cuttings from infected sections should be barred, but cuttings from clean sections are not dangerous. It is so easy to start a vineyard from cuttings, that there is little hardship in not allowing rooted vines to be admitted and, as even a section supposed to be free from phylloxera may be infested, it is well to place an embargo on all rooted vines. There is no danger of spreading this serious vine pest in cuttings, as it is found only on the roots in our California vineyards.

GOOD FRUIT PROSPECTS.

The prospects for a heavy crop of deciduous fruit is so far very good. The season has been good so far, weather cool until the trees were ready for bloom, no frosts and no heavy rains to wash out the pollen. All trees have come out heavily in bloom, and if the unexpected does not happen, we may count on a big crop of fruit. The canneries evidently take the same view, as they are now making preparations for putting up the biggest pack for several years. Many of them are greatly enlarging their facilities, increasing their buildings and securing an unusually large stock of cans.

FRUIT MAY BE SUL

Californian fruit drier granted another year of Department of Agricultur tary Wilson has announ action will be taken a men who use sulphur fo curing of their product t matters not what decision by the commission appoi vestigate the question c sulphur, as used in the fruit is injurious or oth fruit-growers are promise for the present season's c rate. It is quite probable is not injurious this year be next, and that we shall to cure our fruit as heretc perhaps, some safeguard a inordinate use of sulphur. fruit industry of Californ great a thing, and involves to be swept out of existe out ample reason.

HOP MEN ARE OPPOSED HIBITION.

The Pacific Coast Hop Association have adopted so resolutions against the pre of temperance or prohibit is sweeping over the coun claim that the moderate u is inducive to temperance, prohibition would ruin the h try of the Pacific Coast. temperance, or some other having a very depressing e the hop market and growers ing money on their crops. Ve are lessening their acreage planting with other and mor able crops.

STILL FIGHTING PEAR B

Sutter county has comme strenuous fight against the pear and the Horticultural Commi that county has issued orders inspectors to make a careful gation of every orchard and t all in which there are any evid of the blight. The owners of orchards will be notified to e the disease, and failing in county commission will do th and hold the property for th The State laws provide for the Commissioners of Sutter their determination to enfo laws.

SPRAYING.

In an interview recently Mercury reporter, Leonard C well known fruit-grower and man, spoke interestingly on ject of tree spraying. Mr. C said:

"A great many fruit grower cially those who are coming State and engaging in the bu fail yet to realize the vital imp of spraying their trees to prev check fungus and bacterial The managers of the various fr neries will tell them how mu their fruit will be worth if tr properly sprayed.

"The time is coming on wh trees should be sprayed with Bord mixture to prevent curl leaf. In vember all peach, apricot and trees should have been treated sim larly to prevent shot-sole or pe blight.

"It is a very simple and inexpensiv operation, but it must be done righ or time and money are wasted."—Sa Jose Mercury.

es and Their Care

ALUE OF HONEY.

g to Dr. Paul Denade, uld occupy an honorable therapeutics says Coleman's e relates that a lady asked about a tiny, emaciated e child, which lay in its arms, was nine months old, one the feeling that it had ose its little eyes for death itself. The infant was suf- m diarrhea, which had re- yield to all remedies tried; the e creature was emaciated to ne degree, with black rings eyes, and the lower stom- ully large. The poor suffer appetite whatever, but was ce plagued with almost in- omiting and diarrhea. He er to feed the infant on d water, nothing else abso- eight days, and if the child living at the end of that give goat's milk and water oportion of one to two parts ly. "I dismissed the case mind, since I did not hope ing better than death as a says the doctor. "What astonishment when, at the hree months, I was shown a ooking, well nourished baby, excellent appetite and regu- s. and its stomach reduced Here was my wretched nothing less than metha- d by means of honey. l proportions, may be easily

CISM OF THE USE OF THE WORD "QUEEN."

ame "queen" as applied to ler bee in bee culture, is a r. The word carries with ea of royalty, empire and , and signifies, when applied ndividual, that she rules or the colony in which she has n. Nothing can be further th. The colony is not an and she exercises no do- ver it or its inmates. She is he mother bee, and nothing colony of bees is a commu- nsects, in which each mem- so-called queen included, its respective duties for the the whole, and in which each in its sphere, has equal nd privileges. The name, as to this insect, had its origin ark ages, when the people in royalty, and the doctrine gs and queens ruled by divine ut in this enlightened age, ll people know better, is it to drop this misapplied nd call this insect the " which fully describes her? Coleman in Southern Agri-

CARE OF BEES.

n hives with good brood s equal to the laying capac- e queen are considered best ering; the stores are usually . When all breeding is over season the central combs are eficient in stores. Here a ractical feeder comes into on, one that can be used the cold nights of October t will work successfully with rup. Nothing is gained by ng bees to evaporate a large of water so late in the sea- r late feeding use about one f water to every fourteen of the best granulated sugar. When early feeding is practiced thin syrup may be used, but for late feeding we need the syrup very thick, just thin enough so the bees can work it nicely.—American Agriculturist.

THE HONEY BEE.

If you "keep a bee" you should also have some strawberry plants. It is said that a swarm of bees will visit 10,000 strawberry plants in one day.

Honey should be stored in a cool, dry place.

Bees should be kept dry and warm and have plenty of food during the winter.

Actual experience is the only way in which success can be attained in bee-keeping.

BEES ON THE FARM.

Every farmer should have a hive of bees on the farm, even if he attaches but little value to the honey. The bees are excellent foragers and carry pollen from one plant to another.

In communities where no bees are kept there will be found orchards that do not bear, the cause being unknown, while a hive or two of bees in the neighborhood would change the conditions.

For those who have weakened digestive powers honey is said to be a very desirable food. If a person is very tired—too exhausted to eat—a few tastes of honey will act like magic.

All the hives in an apiary should be made of one design out of well seasoned white pine or other white wood; they should be planed inside and painted blue outside.

It is said that Germany produces more honey than any other European country; she furnishes 20,000 tons annually.

GETTING EVEN.

"No, I don't believe in expensive practical jokes," said a San Francisco business man, "except by way of retaliation,"

"Now last year I received a telegram from a friend who was traveling in Italy. It came collect and cost me seven dollars; and when I opened it all I read was, 'Thank you, I am well.'

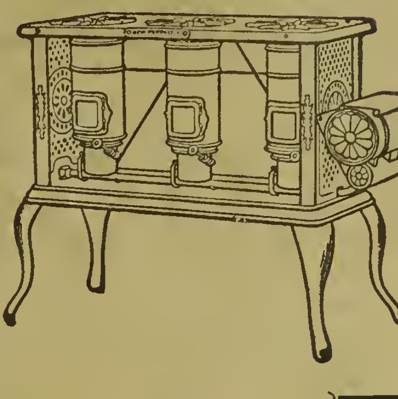
"Then I sallied forth and sought me out a cobblestone—a nice, large, cobblestone weighing about eleven pounds. And I wrapped it in excelsior, pink cotton and white paper, and I boxed it up in a handsome box; and I sent it by express, collect, to my facetious friend far across the bounding billows.

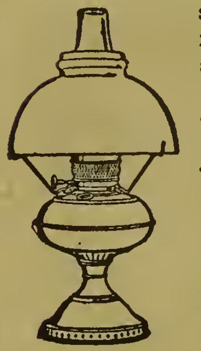
"And when he had paid his litle fifteen dollars, and had opened the box in St. Petersburg, if I remember rightly, he found in addition to the precious contents a note from me that explained, 'This is the load that rolled off my heart on receipt of the news of your good health.'"—Woman's Home Companion for April.

The date fixed for the beginning of mohair sales at Dallas, Oregon, is April 17th.

The immense pre-cooling plant at San Bernardino is ready for the present shipping campaign.

The Riverside Development Company is pumping 70 inches of water from a recently completed well.





Put This Stove in Your Kitchen

It is wonderfully convenient to do kitchen work on a stove that's ready at the instant wanted, and out of the way the moment you're done. Such a stove is the New Perfection Wick Blue Flame Oil Cook-Stove. By using it you avoid the continuous overpowering heat of a coal fire and cook with comfort, even in dog-days. The

NEW PERFECTION
Wick Blue Flame Oil Cook-Stove

is so constructed that it cannot add perceptibly to the heat of a room; the flame being directed up a retaining chimney to the stove top where it is needed for cooking. You can see that a stove sending out heat in but *one* direction would be preferable on a hot day to a stove radiating heat in *all* directions. The "New Perfection" keeps a kitchen uniformly comfortable. Three sizes, fully warranted. If not with your dealer, write our nearest agency.

The Rayo Lamp is the ideal lamp for family use—safe, convenient, economical and a great light giver. If not with your dealer, write our nearest agency.

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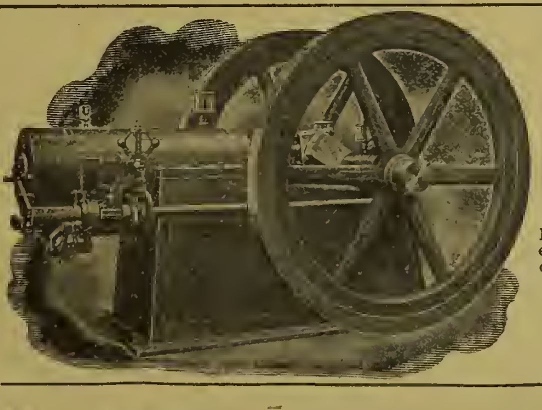

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We build the MORROW DOUBLE TWO-CYCLE GAS ENGINES without a valve, coil or spring. No packing. Constant compression and constant explosion. 20 H. P. only weighs 730 pounds. Best engine for pumping water extant. It's "fool proof."

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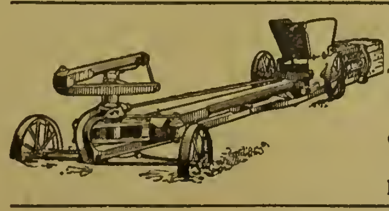

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Chas. C. Navlet Company's
BUG PROOF SQUASH
The Squash of the Century
Prodigiously Prolific Succeeds Everywhere

Bug Proof is unquestionably the grandest Squash on Earth. It has taken more first premiums than any other six vegetables combined. It grows strongly and rapidly. It defies the attacks of bugs. It produces colossal crops. It keeps in perfect condition for a whole year. The fruits—of oblong shape—have very rough and very hard shells, and weight about 40 pounds each on an average. The flesh is a rich yellow in color, very thick, fine grained, sweet, dry and of surpassing flavor either roasted, boiled, steamed, baked or in pies. It is also one of the finest Squashes for feeding to stock. We are sure that those who plant Bug Proof Squash this season, whether for family use or market will appreciate its unequaled merits as thoroughly as we do. Per packet 10c—quarter pound 35c, half pound 60c, pound $1.00, ten pounds, $7.50.

Charles C. Navlet Co. SAN JOSE CALIFORNIA

Seeds, Plants, Fruit Trees

Most complete stock in the West, embracing everything new of decided merit in both vegetable and flower seeds. Headquarters for Eucalyptus and other tree seeds. Full line of fruit trees and ornamental stock.

Write for Our 1908 Catalogue

Poultry and Stock Foods

Sole agents for International Stock and Poultry Foods, Kow Kure, Coulson's Egg Food, Darling's Beef Scraps, Chamberlain's Chick Food.

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COTTON IS KING!
FREE COTTON SEED FREE

We have secured from a Texas grower the best strain of Cotton. This is what he says of it: "After trying many of their so-called Improved varieties, we find the Texas Snow Flake Big Boll variety far superior to all others, and we are now growing one thousand acres this season." It is a five lock variety that matures early and fruits very heavy. We will give for the asking one-ounce of this seed to anyone wishing to experiment and learn how to grow cotton, for Cotton will be King in the Imperial Valley.

Send in your order at once. Full directions for growing will accompany each packet. Address

Johnson & Musser Seed Co., 113 N. Main St., Los Angeles, Cal.

Chrysanthemums Large list of very finest varieties. Many of them of famous prize winners at Southern California Flower Show. Strong, Thrifty Plants ready for shipment by the last of April.
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POMONA FLORAL NURSERIES N. Pomona Station, Cal.
MRS. JULIA A. MARUGG, PROPRIETOR

Calendula is first cousin to the marigold; calliopsis is a more graceful grower than either of them, and deserves a place in every garden.

No truck gardener or farmer should contract to sell his products at stipulated prices the entire season.

The Vegetable Gard

SPRAYING THE GARDEN.

How can I handle the pests of the garden, is a perplexing question with many gardeners. Here are a few suggestions:

Asparagus.

Beetles—Keep beds closely cut in spring and protect later with poison, preferably arsenate of lead.

Rust—Spray thoroughly a few times in July and August with diluted Bordeaux. Set plants on good land, and keep them in vigorous condition.

Bean.

Anthracnose—Spray with Bordeaux mixture when the first true leaf appears, making a second and third application when it is necessary to keep the foliage covered.

Bean Beetle—Kill grubs on under side of leaves with kerosene emulsion (one to eight) or spray with arsenate of lead.

Bean Weevil—Fumigate beans for 24 hours in a tight vessel, using one tablespoonful of carbon bisulphide to the bushel.

Flea Beetles—Spray with poisoned Bardeaux mixture.

Beet.

Leaf Spot—Spray with Bordeaux mixture when four or five leaves have expanded and repeat two or three times at intervals of 10 to 14 days.

Cutworms—Use poisoned baits and prevent attack by early fall plowing, harrowing or disking.

Cabbage and Cauliflower.

Aphids—Spray with kerosene emulsion or a whaleoil soap solution, when numerous, and repeat if necessary.

Cabbage Worm—Spray with a poisoned rosin-lime mixture, if plants have not headed; otherwise use hellebore or kerosene emulsion.

Cutworm—Protect stems with bands of paper or use poisoned bait.

Harlequin Cabbage Bug—Sow mustard early and destroy bugs thereon with kerosene or resort to hand-picking.

Root Maggot—Protect plants with paper collars or wet the surrounding soil with emulsion composed of one pound of soap, one gallon of boiling water and one pint of crude carbolic acid diluted with 30 parts of water.

Celery.

Blight—Make fortnightly applications of Bordeaux mixture until plants are one-half or two-thirds grown, then use ammoniacal copper carbonate every 10 to 15 days, if the weather is rainy.

Onion.

Celery Worm—Hand picking.

Blight—Spray with two-thirds strength Bordeaux mixture at ten-day intervals.

Maggot—Wet the surrounding soil with carbolic soap wash, or remove the soil about the plants in the morning, replacing at night, so as to allow some drying of soil about the maggots.

Pea.

Aphids—Plant early varieties or spray with kerosene emulsion or a whaleoil soap solution, when it is necessary.

Pea Weevil—Same as for bean weevil.

Potato.

Spray with poisoned mixture at two to three-we vals for blight, potato bee flea beetles.

Scab—Soak uncut tubers one-half hours in a solution half ounce of corrosive sub eight gallons of water, or hours in a solution of one formalin to 15 gallons of wa

Squash.

Squash Borer—Slit infeste and destroy the borer, cover injured part with earth early trap vines.

Squash Bug—Trap bugs shingles laid about vines, d them every morning, and cr clusters. See, also, cucumbe

Tomato.

Leaf Blight—Spray with B mixture at seven-to-ten-day vals.

Flea Beetle—Spray with Bordeaux mixture as needed

Rot—Treatment same as blight, though usually u tory.

Tomato Worm—Hand spray with poison.

Sweet Potato.

Black Rot—Select clean roll in sulphur, and, if possib in soil free from infection.

THE EARTHWORM.

Little and unpleasant as an worm is, Mr. Darwin thought portant enough to spend thirt of his life in experimenting up It is blind, it is deaf, it is lives in the cold, dark earth, knows how, better than any the world, to plow the ground all the green things can gro

Would you believe it that chesnut tree from which yo fond of gathering nuts needs of the earthworm? It plow ground by turning it over and ing it up so that light and sunshine and rain can get To be sure, it needs mill worms to effect much goo worms cast up piles of ear the longer they work the thi layers grow until they form table mold. Nearly every this vegetable mold has been the bodies of these worms, soil where this mold is f finer, darker and richer. It because it has been ground up little stones in the worm's giz is darker and richer because been mixed with juices a leaves in the worm's body.

The worm has been cal most wonderful plow in the Remember all the good th worm does, and the next t see one don't crush it u foot, but give it a chance t wonderful work, for without grass, flowers and trees woul destruction.

Holes should be dug large eno to take in all the roots spread out their natural position. The surfa soil should be worked in among t roots and pressed very firmly abo them, except an inch or two of t surface to act as a mulch.

Potatoes require an abundance available plant food to have lar yields.

THE "BOSS"
e Protecter
Made of Yucca Palm

Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. Can be easily removed; will last for years.
Send for samples.

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12 inch long, $ 9.00 per 1000
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18 inch long, 12.50 per 1000
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eady for planting, taken from ats; roots dipped in mud, acked in moss. Prepaid to ou by express. 100, $2.25. 00, $10.
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ostrata (red gum), best commer- variety. Place your order right for Spring planting in 1909 and fine lot of trees at bottom prices.
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We still have Brandywine, Excelsior, A-1 and Midnights. Also Giant Himalaya Blackberry, California Surprise, Cuthbert and Miller Raspberry and Mammoth Dewberry plants.
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s and Seed for sale in any quantity. War- d the genuine article. Orders filled promptly
A. L. Pratt, Ventura, Cal.

ld-fashioned flowers are as good the best and will flourish where "improved" would die.

The Ornamental Garden

PERENNIALS.

FOR general home flower gardening there is no class of plants more satisfactory than the hardy herbaceous perennials.

This is due to the fact that when once established they do not require as much or as particular attention as the annuals. And, then, they afford such a wealth of blossom and foliage that their proper use adds greatly to the attractiveness of any home. Besides these very desirable qualities they afford an opportunity for the studiously inclined to develop a most legitimate, artistic taste, through a study in harmonious arrangement.

We might say that they differ from hardy shrubs in that their tops die back each winter, and from the annuals in that their roots survive from year to year, increasing in size and vigor each season. From these clumps of roots, in early spring, there arises a strong, vigorous plant, which in its season affords a glorious array of blossom.

As a general consideration the perennials are best adapted to a position in front of the shrubbery section, with a southern aspect, which gives a proper background for the display of their floral garb. A few are suitable for individual specimens, but the best results will be obtained from mass planting, and that rather thickly.

The most satisfactory scheme of planting is one in which the several kinds of plants are grouped in more or less distinct sections, according to their floral colors and general height. These sections should rather indiscriminately merge by judicious mixing from one to another and should further be arranged so as to supply succeeding crops of blossom well distributed over the entire bed or border. The object being not to pass abruptly from one class of flower or blossom to another and thus give a stiff, formal effect, but to merge the various colors into a happy informal group.

Individual taste and experience must necessarily enter prominently into any scheme that may be decided upon. One advantage of this section of plants lies in the fact that they may be changed about, almost at will, so as to bring out the desired effects. In fact, constant minor, yearly changes should be made in order to bring out new features and floral pictures. Besides, all the roots will need dividing every two, three or four years in order to promote health and vigor and to preserve the general plan.

Now, in reference to the preparation required previous to planting, we would say that too much attention cannot be given to this feature. The soil should be rich, porous and well drained, and at the same time retentive of moisture. The bed should be stirred deeply and well pulverized. This will give a very congenial environment in which the roots may attain to their largest proportions, thus providing the nourishment for the strong, healthy plant supporting a massive array of blossom.

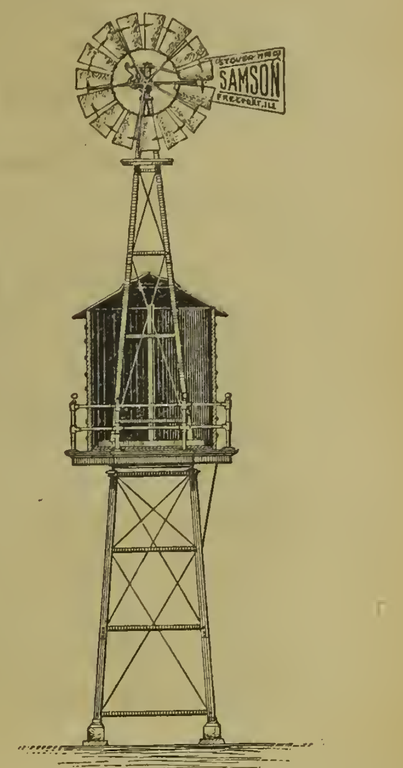
Gross neglect along these lines will invite failure of similar proportions. The fertility of the soil should be constantly maintained by the addition of barnyard manure applied in winter after the ground has been frozen. This will form a mulch for winter protection which is usually quite desirable, and when spaded under in the spring, will add the necessary elements to the soil to maintain its fertility.

Returning to the plants themselves, we will suggest a few of the best and most commonly accepted individuals, giving their habit of growth, color of blossom, period of blossom and any other information within the limited scope of this article.

Aquilegia coerulea (Rocky Mountain Columbine): One foot. White and blue. June. A most popular plant for mass effects. Aquilegia chrysantha (Golden spurred columbine): Two to three feet. Yellow. June. Very hardy and desirable. Coreopsis: Two feet. Yellow and red or brown. July to September. A very handsome flower. Shasta daisy (a hybrid): Eighteen inches to two feet. White. July to August. Especiallly desirable for border planting. Nice for cut flowers. Dianthus harbatus (Sweet Williams): Twelve to eighteen inches. Variety of color in whites and pinks. July to September. A good hedder. Dicentra spectabilis (bleeding heart): Two to three feet. Pink and white. May to June. A very pretty flower suited to shady places. Delphinum (Larkspur): Three to four feet, White or blue. June to July. A very handsome flower. Suitable for specimen planting or in the back ground. Often needs support. Gaillardia: Two feet. Orange. June to October. A very nice flower for cutting. Good clumps are very showy. Althea rosea (Hollyhock): Five to eight feet. All colors. August to late fall. Place in back ground. Iris kaempferi or germanica (Japanese or German Irises): Two to three feet. White to blue or purple. May to July. Similar but superior to common flag. Increasingly popular. Best grown in masses. Lathyrus latefolius (Perennial sweet pea): Four to eight feet. White and red. August. Not suited for border. Efficient for covering trellises, rocks or similar rough places. Does well in shade. Monarda Didyma (Oswego tea, Bee Balm): Two feet. Scarlet. July to October. A very showy flower for mixing in border. Paeonia officinalis (Paeonia): Two feet. Variety of colors. May to June. Good specimen plants. Also adapted for massing. Need deep, rich soil. A most pleasing roselike blossom. Superb. Phlox paniculata (perennial phlox): Two to three feet. Variety of colors. June. Very showy bedders. Papover orientale (Oriental poppy): Two to four feet. Scarlet. June or July. Produces a very large, showy blossom. Papover nudicavle (Iceland poppy): One foot. Yellow; also white and orange. Mixed border. Penstemon barbatus (heard tongue): Three to four feet. Crimson. June to September. Bears long spikes of flowers. Rudbechia (Golden glow): Five to six feet. Yellow. August to September. Splendid specimen plants, making a showy display. Tritoma pfitzerii (Red hot poker): Two to three feet. Orange red. August to September. A very desirable bedding plant with a showy effect.—L. M. Montgomery, Gardener, Colorado Agricultural College.

Bulbs should not be left lying about exposed to the air. Plant as soon as received.

SAMSON WIND MILLS
Have double gears, removable bearings and center lift, which double the life of the mill. They will last longer, pump more water and give better satisfaction than any other WIND MILL.



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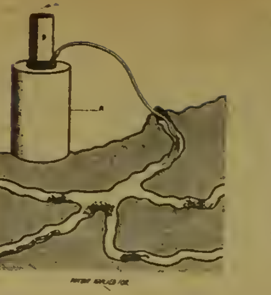

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Irrigation and Foresti

IRRIGATION IN ITALY.

IN a bulletin issued by the department by Dr. Elwood Mead, is the report of the observations on irrigation in Italy made by Dr. Mead in the summer of 1903, and it deals with the section watered by the Adda and Adige rivers, taking up especially the legal and institutional phases of irrigation and describing the operation of canals controlled by the government and those controlled by co-operative associations of water users.

The history and present status of the irrigation laws of Italy are given, with some comparisons with American conditions. The development of irrigation laws from the early Roman law to the present time is sketched and a statement of the present law, enacted in 1884, is given. The unification of Italy as a kingdom made the national government the successor to all the water rights which had hitherto belonged to the separate provinces, and one of its first acts was the declaration of the public ownership of all unappropriated public waters. This was followed by the enactment of a law providing for the determination of what are public waters and the compiling of a list of all rights to these waters, and making provision for the acquiring of rights in the future by grant only.

Concessions are now granted either by a law of the kingdom or by an administrative decree, and are always made subject to existing rights. As a rule they are limited to thirty years, but perpetual rights may be granted by a law of the kingdom. While the law makes the nation supreme in matters relating to the granting of rights for irrigation, it entrusts the exercise of this authority to local officials in the granting of rights of only local interest. This division of power has not, however, been satisfactory, at least to the officials of the general government, and a commission was appointed in 1898 to recommend changes in the existing law. This report shows that the reason assigned for the appointment of the commission was the claim that the provincial officials were not exercising the proper care in the granting of rights, especially for the development of power, but were allowing power rights to get into the hands of foreign capitalists, who were establishing a monopoly for the exploitation of the real users of water. The proposed cure for this threatened monopoly of natural resources was to give exclusive authority to grant such rights to the general government. This commission recommended tho creation by law of a permanent board to which all such applications should be referred. No such law has been enacted, but a commission formed on the lines recommended has been created by royal decree, which, however, acts in an advisory capacity only.

The kingdom of Italy charges for water diverted from public streams, tho amount of the chargo being fixed by law. The charges for water for drinking and for irrigation without the obligation to return tho waste water is but one-half as great. Whero it is impracticable to measure tho water diverted the charge is 40 per acre irrigated. The place of the water is not limited, the having the right to use the wa to sublet without limit on the

In addition to controlling streams the government owns c canals which are leased as a v and other canals which are ope by the government with lease sociations of water users or viduals.

Further aid to irrigation is the government contributing cost of construction of works b associations or individuals. T is conditioned upon contributi the provinces and communes the works are situated, the contributions being not less th tenth of the sum granted by ernment. The aid given by th dom is a part payment of the on money borrowed to carry work. The total contribution ally 3 per cent of the estimate of the work annually for the years, 2 per cent per year for a period of ten years, and 1 p per year for a third period years. This aid may be give large or complete works as we new works.

The government further ai tion by granting loans from banks. The procedure for these loans, the amount of int be charged, and the security to manded are all fixed by the M of Finance. The maximum per loans is ten years, except wh sinking fund is provided, whe maximum period is 25 years.

Associations for the constructi irrigation works through govern aid are provided for by law. Th sociations may be either volunta obligatory. Obligatory assoc are organized by the courts on t e plication of a majority of th ested and are in fact similar to gation districts or drainage in this country.

The report describes the op of a typical government canal a two association canals, illustratin operation of these laws.

ARABIAN ALFALFA.

Because of the numerous in for the Arabian alfalfa and Egy cotton, we inquired of the A tural Department where a q could be obtained. We are i by the authorities that there ly sufficient seed in the count experimental purposes and n be had from abroad, but that t partment hoped to have sufficie general distribution next year.

BRESS DE GOOD LAWD

The "professor" (no, it w Patty) had just finished his show in a Southern town. T darky janitor sidled up and "Excuse me, boss, but kin I ax question?"

"Certainly, uncle."

"Dis yere contraption of you can see clean thro' a man?"

"O, yes."

"Kin you see what he has b eatin' of?"

"O, yes."

"Well, boss, if a man has been e in' chicken, can you see dat chik en?"

"Yes, indeed."

"Dat suttenly am curious; bu say, boss, can you tell whar d chicken come from?"

"O, no."

"Bress de Lawd! He sure do loo out for the nigger."—Sel.

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to be answered in this department should be received at this office
efore reply is expected. Write plainly on one side of the paper and
ame and address. Unsigned communications receive no attention.—

its.

ike to know through your
per if the English Runt
olor but blue. I have a nice
e Runt pigeons and their
d.—L. K. F., Dinuba.

ish Runt breed is different
is all right if your young
e hatched out red.

x.

me little turkeys that are
ut with a very contagious
ittle lumps appear around
and finally over the entire
seems to stop their noses,
very swollen. They droop
finally die. Another lot
roken out with it. Can you
at it is and what to do
s. A. Lee, Compton.

keys have [illegible] pox.
gi [illegible] dies in
[illegible] s disease.
[illegible] ack numbers
n [illegible] for immediate
at th [illegible] es with carbolated
d get a good tonic and put
king water. I think if you
the birds as above that you
the disease. If you will look
tember 19th issue you will
ndid article which will help
follow directions given in

table.

n I rid my horse stable of.
bscriber, Folbrook.

hly clean then spray with
or with distillate in which
lice killer. The thorough
nd whitewash will probably
nt.

Dewberries.

ar when my Gardena dew-
re well set with green ber-
leaves turned spotted and
ook right; the berries all
Now this was just in spots
feet. What was the cause
d what the remedy to pro-
year's crop?—A Subscriber,
a.

fficult with no further in-
to state definitely the
ut if it is a blight or rust,
aux applied before the trou-
rs this spring will check it.
ou spray with the Bordeaux
eave, if you wish, one vine
, which is not sprayed and
n whether your treatment is

aut.

give method of making
aut.—Newcomer, Fullerton.

ethod was given in this de-
a few weks since, but here
r, said to be fully as good.

erfectly sweet barrel, put a
sliced cabbage eight inches
, and sprinkle liberally with
th an old fashioned clothes-
pack firm and hard, but do
e. Fill the barrel with alter-
ers of cabbage and salt.
refully, but hard, and liquor
appear at the top of the bar-
ver with two layers of cab-
ves, then with a round oak
d heavy weight.

thin cloth closely over the
let the barrel stand in a
place. When fermentation
which will take place ordi-
n from three to four weeks,
varying with the temperature, set the barrel in a cool cellar. Keep it closely tied and covered.

Another way is to put the sliced cabbage in inch-thick layers, salting lightly and pounding down each layer. Cover with board and weight, and pour over cold water until the cabbage is covered. Set in a moderately warm place until fermentation ceases. This will be shown by the disappearance of the bubbles at the top. The liquor must at all times cover the cabbage, or it will turn black and spoil.

Polishing Pecans.

Sometime since the Cultivator had a query as to polishing pecans. A limited answer was given then and a letter sent to the department at Washington for information, as no information seemed to be in hand here. To this query are received the following from Wm. A. Talyor, pomologist in charge of field investigations:

Replying to yours, addressed to Dr. Galloway and by him referred to me, I would state that the polishing of pecans as done in the commercial establishments, is usually accomplished by placing them in a revolving cylinder made of wood or woven wire which is so arranged that it can be whirled rapidly, the polishing being thus accomplished by the friction or rubbing of the nuts against each other and against the sides of the cylinder.

"Tinting" is accomplished by using the desired color in the form of dry powder or liquid added to the nuts in the polishing cylinder. Where tinting is to be done, the cylinder must be practically water-tight.

Neither of these processes adds anything to the quality of the nuts. In fact, in some markets, with the better grades of nuts, polishing depreciates the selling price. For low-grade nuts it possibly results in higher prices as the nuts can be made more uniform in appearance in this way. But in view of the fact that the practice is sometimes resorted to in a way to disguise stale or other inferior pecans, it is very doubtful whether the practice results in any benefit whatever to the producer in the long run. A simple washing and rubbing of the nuts to remove adhering particles of hull is really all that is needed to put them into good marketable condition and is all that we would advise.

Blue Stone for Watermelon Seed.

In the Cultivator for March 12 there was an article on watermelons for profit. Among the many suggestions given, Mr. Ostergard says: "Do not forget to bluestone your seed." This would be very valuable to me if he had explained how to do it. We have never heard of the use of bluestone on watermelon seeds, I presume it prevents wood-rats from digging up the seed, and that is what troubles us very much.—L.

The only advantage of the bluestone, is that it may prevent blight. We say "may prevent," for many best growers believe it of no value. However, the treatment is to immerse the seed in common Bordeaux mixture. The formula for this was in the spraying page of the issue of March 12.

Also a query from Dinuba asking same question. Says that no growers there know of use of bluestone.

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Water Stock...

I noticed sometime ago a reply in your paper to some one's query in regard to ditches. I have a question I would like you to answer. If a man owns stock in one of the Imperial water companies and they allow him to place this stock on a certain piece of land, are they compelled to furnish him water at sufficient height to irrigate it even, if it should necessitate raising the banks of their ditches in order to furnish the water? After they have allowed the water to be checked up high enough to water the land after seeding, can they refuse to check to this height again and cause him to lose the crop? —B.

Generally such a query would be answered by the by-laws and rules of the company. However, as the crop was put in and water supplied for one irrigation, the implication is that that crop should be carried to maturity or the company make good the loss. Besides, if the water stock was placed upon this particular land with consent of the company, the assumption is that the "water should follow the stock."

Apiary Men.

Will you please favor me with the address of some of the chief apiary men of California and also tell me of whom I can get stock for the business such as hives and fixtures.—J. C.

The officers of the State association recently elected are:

J. M. Williams, Pasadena, president; E. A. Holmes, Orange, secretary and treasurer; the vice-presidents to represent counties as follows: L. E. Mereer, Ventura; B. C. Sehrock, Riverside; G. F. Merian, San Diego; B. G. Burdiek, San Bernardino; G. Lynn, Los Angeles; F. Hart, Kings; J. E. Pleasants, Orange; A. J. Bauer, Kerns; W. A. Pryal, Alameda; J. W. Gwin, Imperial; J. MeCubbins, Fresno and Muth Rasmussen, Inyo county.

Write Madary Supply House, of Los Angeles, for bee supplies.

Pear Blight.

I have some pear trees in my orchard, and one of them from which I send you the enclosed piece is affected, as you see, with some kind of disease. Will you kindly advise me how to treat it? I will be very thankful. I am one of your new subscribers, and I am well pleased with the paper. S. G. S., Stevenson.

Courtesy S. L. Allen & Co.
CULTIVATING LILIES IN NEW JERSEY.

The twig was submitted to Prof. Smith at the Pathological Laboratory, and we have the following:

Your forwarded letter from S. E. Sorensen to the Cultivator Publishing Company is at hand. As Professor Smith is away at present, I am answering this letter.

The specimen enclosed is too small to tell anything about it at all as regards whether it is pear blight or not. However, it does not seem to be anything but a drying out of the end of the shoot for some reason or other. If the enquirer is very anxious to find out the real cause of the trouble we will be glad to help him, providing he will send a larger and better specimen than the one already sent. H. J. Ramsey.

Blackberry Rust.

Enclosed please find samples of Loganberry leaf which seem to be diseased. I have two vines which seem to be affected in this way. Can you tell me, through the columns of the Cultivator, what is the troublo and what is the remedy? E. R. H., Woodland.

The above, with another from Corning, were submitted to Prof. Ramsey at the Pathological Laboratory, and he writes:

The samples of loganberry leaves which I find enclosed coming from Corning and Woodland, are both affected with the same disease. The leaves are affected with rust which is quite ge
on raspberries and
throughout the State. T
ing, or but very little,
done for this rust by ei
or sulphuring, and the o
can be done is to cut ou
parts of the plants, or
fected plants altogeth
them.

Gypsum.

Some one in Los Ange
ing or making gypsum
find out here who it is. I
out the cost delivered he
one ton, five tons and ca

Write the Fire Pulp Pla
meda street, Los Angeles,
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lay (R.); 3. Joseph R
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A. Hayes (R.); 6. James
ham (R.); 7. James McLa
8. Sylvester C. Smith (R.

Asparagus.

Will you kindly tell me
may be planted in April
peaches and apricots an
ries grow all right near
where ocean breeze p
Toyoshina, Burbank.

Plant asparagus at o
would have been better.
do not do so well w
ocean breezes prevail. W
of eucalyptus or other
trees aid, but as a rule,
are better. Strawberries

Scabby Potatoes.

Will seed potatoes
ground eight inches deep
elements of California w
any effect of the scab,
much affected, or will I
them?—Subscriber, Lom

Immerse seed in som
sive sublimate—one ounc
lons of water—for an ho
Then plant on new, fre
you will be more sure
scab.

Road Drag.

Will you kindly infor
"drag" is made for smoothi
roads. I saw an account of th
time ago, and believe it was
Cultivator.—E. E. Graham.

This question is answered
short illustrated article on a
page of this issue.

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ad area of perfectly level land,
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is land has an inexhaustible
pply of artesian water, and is
y equal in productiveness to
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ches, grain, sugar beets, dairy-
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lood your stables with sunlight there will be less opportunity for ease to get in.

HOW MAY THE RESULTS OF SCIENTIFC INVESTIGATIONS BE BEST APPLIED?

Continued from Page 383.

followed up with growers as it was with the peach growers.

Can't Afford Not to.

It may be urged that the State can not afford the expense of this supplementary work. It seems to me it cannot afford not to if it be true that the real object of the investigations largely fail to be secured without it. If without it, the benefit from the large public expense accrues largely but to the few, while the many who need the help most, do not avail themselves of it. It is because this supplementary effort in behalf of the masses is recognized that we find small demonstrative government farms scattered through the more prosperous agricultural districts of Europe, and even in Japan and China.

Co-operative Associations.

Next in efficiency to this government supplementary aid in having results of valuable investigations more generally utilized, I think may come the efforts of co-operative organizations of growers. The possible weight of such organized influence is forcibly indicated in the experience of the Southern California Fruit Exchange in connection with Mr. Powell's work. Its valuable support of the investigations from the first, and its efforts through its auxiliary associations to have the results at once utilized, have been among the most important factors in securing its phenomenal success in many sections, and through these efforts the industry generally may be led to utilize its important benefits more rapidly, perhaps, than any other.

Farmers' Club.

The lapse of Farmers' Clubs, so popular a few years ago, for various reasons, I think a matter of sincere regret. The most rapid progress made in the general adaptation of improved methods in the history of the citrus industry was made during the few years immediately preceding and following the commencement of the new century. During that time there was a live horticultural club in nearly every orange-growing center in Southern California. We need these means today to help secure the more general use of valuable scientific discoveries pertaining to our industry.

Bulletins.

I think we all recognize how far short of reaching and influencing the average farmer the voluminous bulletins sent out by both State and national experiment stations come. To make these valuable documents serve their purpose more fully, is needed some sort of organized effort to call more general attention to their practical value.

A Serious Consideration.

I will detain you with but a single other thought, one which, it seems to me, portends ominously for the near future of our industry, unless special attention is given it. If I am right, it is a matter that should constitute one of the strongest inducements for securing more general application of results from scientific investigations. There are things of more worth than accumulated money, after one's real needs are supplied. Fixed conditions being equal, that the large citrus fruit grower with ample means has important advantages over the small grower, cannot be questioned. If to these natural advantages of large growers be added the important acquired benefits of promptly utilizing results of scientific work, and if small growers are allowed to ignore these advantages, the result, it seems to me, is inevitable. For instance, if the men who, by availing themselves of the improved methods indicated by Mr. Powell's researches, are receiving a large margin of profit because of this alone when the time comes, as it surely will come, when this margin from careful handling will measure the entire profit to growers, those persisting in old methods must abandon the industry, and the small holding will gradually drift into the hands of those with enterprise enough to apply improved methods when discovered.

The Small Grower Must Wake Up.

None of you appreciate more than I the value to our industry of such men as the Chases, Rumsey, Teague, Mills and other broad-minded, public-spirited, unselfish men of their type, who are doing things on a large scale. We need the object-lessons they are giving us. But you know as well as I that for the most part it is a different class of men who will gather in the small holdings, when no longer profitable to their owners, because of their neglect to utilize the improved methods that have been demonstrated. I remember when the village blacksmith made my father's plows—when my mother wove the cloth for my clothes. It is true that all this sort of thing had to pass through the various stages to the big factories. But this need not apply to our agricultural industries. The small fruit grower may stay.

Scientific research has made it possible for the small holder to successfully compete with the large landlord, but to do so he must be induced to apply the better methods when demonstrated—and it is to the interest of all that he should be.

Better for All.

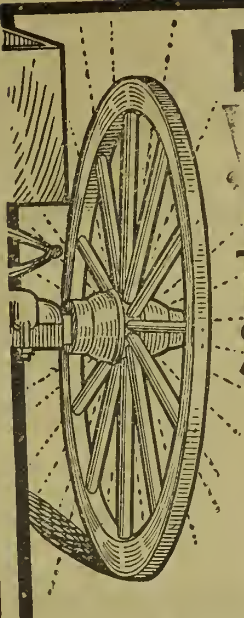
I am sure you will agree with me that it is far better for the community, for the State, for business generally, for one hundred intelligent families to own and successfully manage five or ten acres of orange orchard each than it would be for one man or one firm, with a few expert foremen, and a large force of wage-earning laborers, to manage these 500 or 1000 acres.

A Hundred Homes.

That it is far better, in the interests of best citizenship, to have a hundred homes of freeholders scattered over these 1000 acres of orchards, the occupants largely doing their own work, even with a small annual income to each, than to have this area owned by one man, with the work done by temporary employes, massed in quarters, without home influences, however comfortable they may in themselves, and the aggregate annual profit going into one pocket.

The Fault of the Small Grower.

While it is true that, if this tendency towards small holdings being converted into large, under single management, it will be the fault of the small growers. Nevertheless, it would prove a misfortune to our State; and for this reason, as well as for the individual benefit of the average farmer, I believe special effort should be made to secure more general results of scientific investigations.



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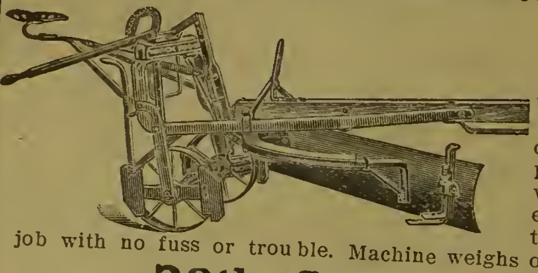

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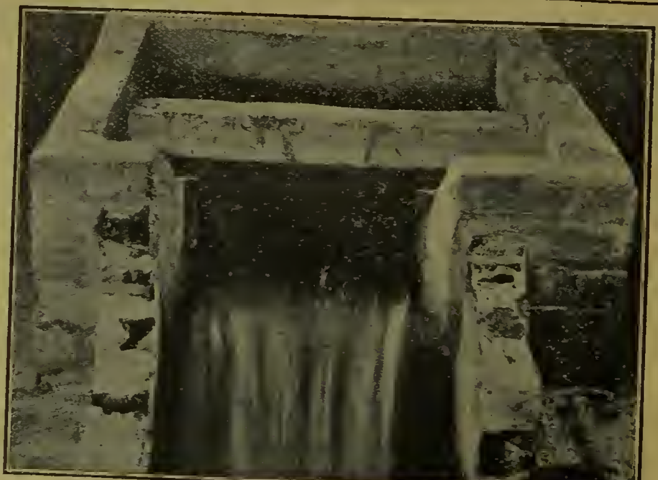

Pomona Mfg. Co., Pomona

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Gentlemen:—In reply to yours requesting privilege of photographing our pumping plant which you installed for us last spring will say: You are perfectly welcome to take as many photos as you wish, and as our season for pumping is practically over, it may be of interest to you to know something of what we have been doing with it. We have raised forty inches of water about two hundred and fifty feet, delivering it through a six-inch pipe line to our reservoir about one and one-half miles distant from the well. The pump is driven by a forty-horse power electric motor, and our tests have shown the actual horse power used to be twenty-seven horse power. The pump has worked perfectly all through the season and is in perfect condition today. It has come up to all that you represented it and met our every expectation. Should you wish to refer to our plant at any time, you will always find it open for your inspection. Yours truly,

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California Trees and Flow

Written especially for the California Cultivator

BY O. M. MORRIS OF MORRIS & SNOW SEED CO., LOS ANGELES, C

"IN all parts of the civilized world, the refinement and happiness of all the people may be measured by the flowers they cultivate," says an eloquent author. I might add that the wild flora of a country must furnish a truthful index to the adaptibility of that land as a home for the human race, for, where they abound, there, too, man may seek for fruitful toil, pleasure and rest. And, where more lovely flowers, more brilliant tints, or more delicate colorings, or more wonderful trees than in the mountains, canyons and mesas of California. And where may a more perfect abiding place be found for man.

It has been stated that California has furnished to the horticulturist a greater variety of beautiful flowers and stately trees than any other State in the Union, including over 50 varieties of Conifers alone. A list of the more worthy subjects will be attached with the desire that all may become better acquainted with them and use them more in the ornamentation of their homes and parks.

There is a striking peculiarity with most of our native trees in that they are not easy to transplant. This is owing to the peculiar system that these plants have developed—from necessity in sustaining them from the drought. A very coarse, heavy tap root or deep growing root with so little fiberous rootlets, and when these large roots are disturbed or too severly cut the plant or tree perishes—and this is the principal reason for lack of our native trees having such little space in our cultivated garden. The nurserymen have seemed indifferent to their growth, and have looked to India, Australia and South America for plants and trees not a bit more ornamental or more beautiful in flower than are our native shrubs and plants. For what State or country can furnish us with a more wonderful flower than the Matitija poppy (Romneya Coulteri) or the California poppy (Eschscholtzia) or the Mexican poppy (Hunnemania), or a more perfect tree or foliage than the Catalina cherry (Prunus Integrifolia) or our wild plum (P. Illicifolia) of the mesas which are practically the same, the live oak or the more showy shrub, the California Holly (Photinia Arbutifolia) or more striking and drouth resisting plants than the "Palo Verde" (Parkinsonia) or Mesquite (Algeraba.)

Well does the writer remember the great effort with which the late Mr. Smiley labored in collecting and planting our native plants at Redlands and with what little success. But he has given us some valuable lessons in this as with many other wonderful demonstrations, and may the monument he built in Redlands (the Smiley Heights and Park) never fade and the work that he commenced never lack for proper support.

The following list of native plants is greatly abbreviated, but are mentioning the most prominent of our native flora:

Abronia (wild Verbena) is a trailing plant of the verbena family growing but a few inches high, but is hardy in the most sandy locations, either interior or on the sea coast sand dunes.

Abutilon (Aurantiacum) said to be one of the finest of this species. Found quite common in low Diego county growing from e 12 feet high and blooms in sion.

Aquilegia (Columbine) fou our mountain canyons more o distributed throughout the Sta very fine little plant for shrub location, blooming durin summer months.

Arbutus Menziesii (Madrone handsome tree often of large p tions, sometimes growing 100 high. This has a peculiar re brown bark and large waxy flowers, and in the late fall in great masses of orange re ries about the size of the holl ries. These are largely used florists about San Francisco f holiday trade. They are not common in the southern part State, but grow very luxur throughout the northern par consider this one of the most ing and handsome trees gro the Coast.

Ceanothus (the wild lilac Pacific Coast.) These are a green shrubs or small trees dense, showy masses of bl white flowers during the win early spring, followed by during the latter part of the s

Cascaria Sagrada (mountain tree) growing in all our canyo profusion through the State. quently on very gravelly, ab rocky places. Very hardy and a ty evergreen small tree.

Conifers, including cypress pines. It would be impossible i article of this kind to descri these many varieties, but they well adapted to most of the l in the State, and though s largely used, but few varie common.

Fraxinus Dipentata (floweri This variety is found in San county and through lower nia and is a very handsome tr ducing in springtime a profusi white flowers, and said by so surpass most any of the ash.

Heteromeles, Arbuti folia (C nia holly), sometimes class Photinia. This is our most co shrub found everywhere in the throughout the mountains, a known to every school child a fornia holly used at Christmas So far in the southern part of State this has been given very space in our gardens, wholly on count of its being a little difficul transplant, but the seeds grow r ily if planted and cared for other seeds.

Rhus Ovata and R. Integri are common evergreen shrubs w dark red berries. These are useful on hillsides and should grown naturally without trim making a beautiful, green growing close to the ground a eight or 12 feet in height.

Simmondsia Californica, a low dense branching shrub forming ov bushes five to 15 feet high. A fine evergreen with edible nuts.

Torreya Californica (California nutmeg. An evergreen tree growing 60 to 70 feet with slender, drooping branches. Very common in the central and northern part of the State.

Prosopis Dulcis and P. Horrida (Mesquite bean) also known as Algarobia Glandulosa, found in the des-

California and Arizona and
Mexico, withstanding the
d climate.

sonia (Palo Verde.) This
found on the Colorado river
forests, making a pretty tree
feet high, of beautiful green
l fern-like leaves.

nitta, in its several varieties,
nder to our visitors on ac-
its shiny red and green
ıd beautiful foliage. Some
growing only as decumbent
while others grow to quite
zed shrubs, but never making
only forming rambling,
and crooked growth.

iores, oaks and maples are
ll represented, and should be
n very large plantations.

SHADE TREES.

rve the forests and plant
The need of preserving the
must be apparent to all, so
rtion of the motto need not
lt upon, writes W. Paddock,
or of Botany and Horticul-
Colorado Agricultural College.
article we would call special
on to the planting of trees for
rpose of shade and adornment
home grounds. The influence
s upon the life of the growing
girl is known to be great, so
uld make haste to supply them.

e is an increasing tendency
all classes in our towns to-
arger grounds for the home,
not only greater freedom may
nd, but where certain advan-
of the residents of the rural
ts may be enjoyed. Chief
these advantages that the city
it views with envious eyes are
us grounds, with an abundance
utiful trees.

have heard of the elms of New
or of the lindens of Berlin.
ow know that there are many
of substantial and beautiful
not native to the State, which
e grown to a fair degree of
ion. This knowledge has been
at the expense of much time
and money on the part of numerous citizens who have had faith in the country.

Give the youngsters some property interests and some definite work that they may enjoy and the problem of keeping them off the streets will soon be solved.

Buy trees from reliable sources and be content with those of medium size. A tree from five to ten feet in height, if well grown and vigorous, will usually outstrip larger ones in a short time in this climate. Remove a portion of the top, cut off all bruised roots, and shorten the very long ones, and above all do not expose the roots to the drying action of sun and air; keep them moist and well protected at all times.

Plant in good soil and make the hole for the tree deeper and wider than is necessary to accomodate the roots. Fill in the bottom of the hole with loose top soil and plant the tree only a little deeper than it stood in the nursery row. Do not pack the soil too firmly about the roots, but see that there are no air spaces left among them. It is always better to settle the soil with water if that is practicable. After the trees are planted, see that the soil is kept moist but not wet.

TAKE YOUR CHOICE.

Have you ever almost run into some one on the street, and then dodged from side to side for half a minute, vainly endeavoring to pass, while the other person by some strange fatality blocked your every move by trying to pass you in the same way?

Such was the recent experience of a young man in Portland Maine. He and a strange young woman had been going through this performance for several seconds, when his unwilling vis-a-vis staggered him by saying: "Well, hurry up! Which is it to be—a waltz or a two-step."—Woman's Home Companion for April.

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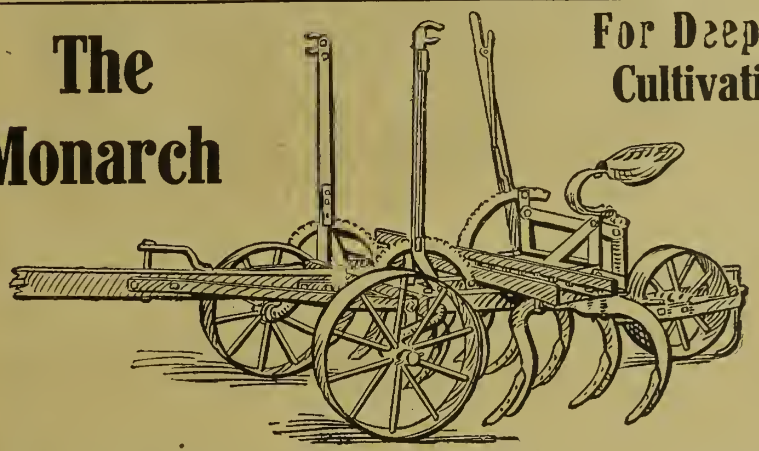

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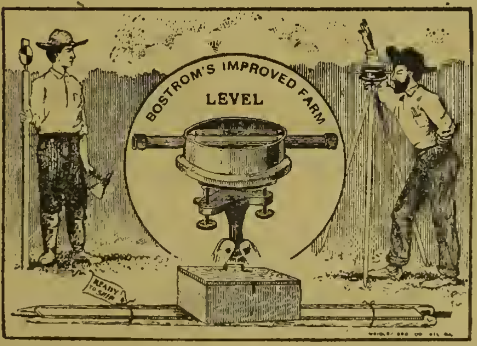

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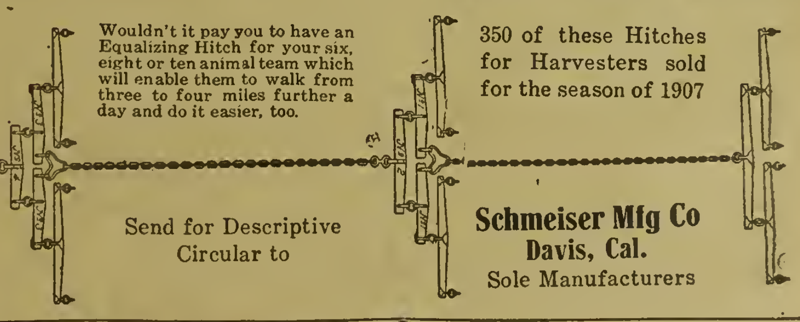

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California Cultivator

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Thursday, April 2, 1908

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DAVIS INDUSTRIAL SCHOOL BILL.

We have received a communication from a leading agriculturist urging us to write our California Congressmen in support of the Davis Industrial High School Bill. The provisions of this bill we have referred to in a former number of this paper. It is strictly a measure for farmers' sons and daughters and one which would be valuable in the extreme to every boy and girl who does not expect to pursue a higher education than the high school. But should the student go through the university such an agricultural finish as the Davis bill contemplates would not come amiss, for it means education which may come good in after life, should agriculture be decided upon later, as is often the case with men and women tired of business turmoil at the end of a long and strenuous occupation.

President Roosevelt, himself an ardent admirer of the bill, gave utterance to a pronounced endorsement of agricultural education in a speech delivered last fall in Iowa, in which he said:

"We should strive in every way to aid in the education of the farmer for the farm, and should shape our school system with this end in view; and so vitally important is this that, in my opinion, the Federal Government should co-operate with the State governments to secure the needed change and improvement in our schools. At present there is a gap between our primary schools in country and city which must be closed, and if necessary the Nation must help the State to close it. Too often our present schools tend to put altogether too great a premium upon mere literary education, and therefore to train away from the farm and shop. We should reverse this process."

At the Whittier Farmers' Institute recently, we undertook to show that the trend of our present-day education is away from labor—not toward it, and as we must depend upon agriculture for our national prosperity and development, we should centralize our education along agricultural lines.

It will do no harm to rear a nation of boys and girls bred to agricultural pursuits. It may prove the apothesis of our national glory and our material safety as a people. The Cultivator heartily endorses the bill and likewise is pleased to read the numerous endorsements from the leading educational men of the United States, including favorable resolutions from many educational organizations, farmers' institutes, State colleges of agriculture and mechanic arts, commercial organizations, boards of trade, manufacturers' organizations and industrial organizations generally throughout the country.

Congressmen from California will do well to give the Davis High School bill their careful consideration to the end, its provisions may be carefully guarded and its disbursements economically administered.

DON'T WORRY ABOUT RAIN.

Although we are short about six inches in rainfall, measured by last year's precipitation for the corresponding date, there is no special reason for feeling uneasy. We are likely to have enough rain in April and May to answer all purposes for a good hay crop. Old residents of California tell us that we are in no immediate danger, and that a fall of two inches early in April will save the hay and also the vegetable crops. In fact, we have had some fine years when rain did not fall any more plentifully than it has this season to date, but we got late rains in April, May and June.

By reference to the rainfall chart of the State it will be seen that in former years we have had some prosperous seasons when we had little rain before the last of January. For example: In 1884, up to January 26, but four inches of rain fell, the most of that in October and December. On January 26 it began raining and by the 31st, when the storm passed, 3.15 inches had fallen. In February of that year the chart shows 13.37 inches fell. In March, 12.36; April, 3.58; May, .35; June, 1.39. That season the crops were good which were sowed early, but of course a great deal of land was unplanted, owing to the fact that it was too wet to plow.

There have been a number of seasons when the rains came very late, which produced fine crops, but they were scattered along and sufficient to keep plants growing. There is really no reason to worry yet, for there is time enough for all the rain we shall need to give us splendid crop results. It will be an exceptional year if this is not the case.

There is one feature in California farming which a few dry seasons will develop, and that feature is **DRY FARMING.** Of this we have treated often in the Cultivator but it seems almost necessary to be brought face to face with dry-season conditions to bring the dry farming methods into practice. When we learn, we can get along with half the rain we have, even in so-called dry seasons, and raise good crops, we shall learn that cultivation does more for plant life than rain without cultivation. Stir the soil often, stir the soil deep, stir the soil oftener than anything else, is the basic principle of dry farming and the whole element of success. When we learn we can retain moisture by cultivation we shall cease to worry about the amount of rain which falls from season to season. This proposition is State-wide and general in its effect and applies with equal force in Central as well as in Southern California. Northern California never worries about scarcity of rain. It's God's country so far as nature's showers are concerned.

The Pacific Rural Press is of the opinion that dairymen will not be able longer to lay the blame for poor milk on the dumb cow. The milkman must get busy and mix his cows to bring up the test of the milk. Beside helping the milk, it may help the poor cow, says the Press, as it does some other organisms, to be in good company.

V. L. L., San Jose, says: "I am sure the Cultivator is well worth the price, and would say I could hardly be without it if it were double the price."

FIX UP THE SCHOOL GROUNDS.

There is no place in the world little time spent in improving the grounds a house will show for more than in Ca And there is no country so favored which more neglect in this respect than Ca What is applicable to our houses is dou ticeable to our country school grounds once in a hundred times do we find a where the grounds have received any at They are bare, neglected and distressing upon. We do not have to go to the rural away from the town, or city, to find th dition, for it exists everywhere. Not onc hundred times do the trustees or the pat our schools take an interest in how the bu or the grounds look, for as a rule, the people do not appreciate the value of the as they should. There may be some exc our city schools because the expense of ing large grounds is often so great that it be afforded. But in the rural districts th back is not felt. Usually an acre is secu this is ample for all purposes. It would easy matter to lay off the grounds so tha beds could be made on them without int with the room needed for exercise. Then easy matter to plant trees along the line which will afford shade for the childre at play or during the noon recess. And different aspect these slight improvemen impart to the place, and what a differe the teachers and children would have a

A great many teachers in rural scho like to improve the buildings and grou they are helpless because they receive couragement from the farmers or their who are directly interested. There are a many children, too, who would gladly as the work of making flower beds, and in for them, if they were given the opport There is a great deal more of refining in in a child than we who are older realize, b often there is no chance given for the dis that sentiment. What we ought to do wo to encourage our children in early life to their desire for the beautiful and to afford an opportunity to receive correct ideas wonderful secrets of nature. One thing w to remember: no teacher, nor pupil, can best work in a dilapidated school building neglected surroundings. When we come preciate that there is a lot more to than what is gotten from text books, w understand better the value of our rural schools. Pupils imbibe careless ideas and ly ways from dirty school buildings and ne surroundings. The woman's clubs of Cal can do no better work than to inaugu campaign for improving rural school bu and grounds. It would be a work which tell everlastingly on the habits of the bo girls and make for good along the lines of education. The question is, will they in such a campaign?

WE ENDORSE IT.

We have heretofore made mention ruling of the Postoffice Department in r to arrears in newspaper subscriptions. this ruling "unless subscriptions are expr renewed after the terms for which they within the following periods—weeklies, one year; they shall not be counted in the imate list of subscribers."

The better we come to understand this the more we approve of it. It will work ship to the legitimate publications and it purge the mails of fraudulent, so-called new pers which are published simply as advertis mediums. The only wonder is that this or has not been made long ago. Hundreds of of illegitimate second-class matter have burde the mails, costing the government large sums, vi timizing legitimate newspapers and hundreds thousands of innocent recipients who were ca ried on the books of such publications and to mented by dunning notices or the persistent in portunities of soliciting advertising agents. U der the new rule all this will cease and the new paper business will become a respectable, ho estly conducted enterprise. We endor th new rule.

gricultural Notes *of* the Pacific Coast

Northern California

etaluma is now marketing its loganberries.

iggs will continue this season ex- iments in rice culture.

he largest asparagus farm in the ld is on Woodward Island.

hop picking machine is being per- ted and tried out at Marysville.

Quite extensive plantings of euca- tus are to be made near Willows.

Sonoma ships 40 to 50 boxes of as- ragus to San Francisco every week.

Grain over the Sacramento valley ll suffer seriously unless rain mes soon.

About 50 carloads of oranges were ipped daily last week from Oro- le and Palermo.

The Davis Enterprise says that vis is one of the choicest lemon ctions of that State.

Construction will soon be begun on e seed building and work shop on e State Farm at Davis.

The prospects for a big output of uit were never better than they are his spring in Sonoma valley.

More than 1000 acres of land not efore irrigated at Colusa will receive ater in a new ditch this season.

The farmers of Ukiah valley have otten down to business in establishing a co-operative cannery of their wn.

A traction engine at Madison, Yolo county, is constantly working wo shifts of men and plows 24 hours day.

For the first time in 29 years Woodland is shipping beef cattle from ther sections to supply its local demands.

Out of 91,000 Northern California sheep examined for scabies a band of nly 20 were found that were free rom the pestilence.

The contract with the Sonoma ounty Co-operative Poultry Associa- ion has been largely signed by the Petaluma poultrymen.

Spraying of trees at Chico has bout concluded. The campaign against shot hole of the peach tree was the principal work.

Prof. Fortier, chief of irrigation investigation, Department of Agriculture, visited Gridley recently in the interests of irrigation work.

Placer county apple growers feared that the early warm weather advanced the apple blossoms so that that crop may be endangered.

Creamery pay day was a lively day at Ferndale. Prices paid were Capital, 32 cents; Independent, 32½; Gridley Bluff, 31; Pioneer, 30½; Riverside, 31½; Eel River, 32.

Vineyardists and orchardists at Lodi have complained of lack of rainfall and some late plowing of orchards will have to be discontinued because of the hard ground.

The horticultural commissioners of Sutter county recently issued a notice to eradicate pear blight within five days after service of notice. Some growers maintain that this is impossible.

The forest fires have begun early this year and already at Glenn Allyn in Sonoma county hundreds of men have been employed in back firing and working with wet sacks to prevent damage to valuable water sheds.

Central California

Orosi is working for a better roads system.

Turlock is urging all farmers to get together for another big rabbit drive.

San Jose reports the deciduous outlook as very bright for the coming season.

One ranch of 1600 acres near Turlock will be lagely planted to cantaloupes this year.

One orchardist near San Jose has secured splendid results from the use of the dry spray.

There has been a great extension of the orchard area of Kings county during this season.

The Turlock Journal says that vast acreage of alfalfa in that section is looking fine as silk.

Sunnyvale recently had a cleanup day in its celebration of Arbor Day which was March 21st.

Fresno county lands have been inspected by many orange buyers during the last few weeks.

San Jose Grange spent much time at a recent session discussing the old and the new in education.

J. A. Filcher recently delivered an address at Fresno urging an exhibit at the Alaska-Yukon Exposition.

Lincoln Grange recently introduced four candidates. Its sessions are now meeting with much interest.

The development of the Corcoran country is declared to be remarkable under the culture of sugar beets.

Some of the butter dealers in the lower San Joaquin valley are having trouble with Los Angeles buyers.

The Alpine Creamery Company at Salinas recently celebrated its opening by giving a dance and barbecue.

The old raisin growers association is still having its troubles at Fresno, a suit still being on for an accounting.

A farmer at Salinas says that the black scab of apples can be effectively controlled with Bordeaux mixture.

Tulare county, especially along the eastern edge, has found increasing profit in winter vegetables and tomatoes.

The principal theme at the recent Fresno Chamber of Commerce banquet was the fostering of Fresno county products.

All kinds of trees and vines are in best of condition in Santa Clara valley and have been given exceptional care during the past year.

Examinations will be held in many California Forest headquarters during this month to secure eligibles from whom to pick forest rangers.

Fresno vineyardists are again opposing the Armsby Company because it is claimed the tactics of that company is in again attempting to bear the raisin market.

A meeting of the farmers at Selma, recently, resulted in the organizing of a branch of a co-operative union. The president is Donald Patton, secretary, H. A. Foulke.

Mrs. Knowls of College Park near San Jose has in her garden two freak calla lilies. They are peculiar in this that it is a double flower the petals going in two directions from the one pistil.

Southern California

A cannery is soon to be started at Garden Grove.

Imperial valley melon outlook up to this time is exceedingly good.

Imperial valley is appealing for more extensive planting of forest trees.

Orange trees all over Southern California are becoming fragrant with bloom.

Some Southern California towns are urging the planting of eucalyptus trees on vacant lots.

The slight rain of last week did but little good excepting in some of the higher foothill sections.

Five cars of cabbage were shipped in one week recently from Wanda Station, Orange county.

Huntington Beach cannery has contracted for green chilis coming crop at the rate of $20 per ton.

"Potato" Young of Huntington Beach has introduced varieties of potatoes direct from Ireland.

Alamitos sugar factory will probably produce about $1,000,000 worth of sugar during the coming season.

Grain crops are greatly in need of rain and even hay will be very light unless an early precipitation is given.

One grower of asparagus in Coachella valley is claiming to receive $62.50 per acre per day from his asparagus beds.

One cantaloupe grower at Brawley is starting his cantaloupe plants under glass hoping to gain some two or three weeks in time.

Examination will be held at Hemet April 23rd and 24th to determine qualification of applicants for position of forest rangers.

Oxnard sugar factory will manufacture sugar from about 15,000 acres of beets. This will produce about 40,000,000 pounds of sugar.

Southern California is to greet the sailors of Admiral Evans' fleet with carloads of oranges and the freedom of all Southern California.

The Department of Agriculture is encouraging the planting of dates in Coachella valley by making free distribution of shoots from well known varieties.

The Santa Ana Valley Irrigation Company has placed a limit on the use of its water on its patrons at the rate of one hour per share of water owned.

A law suit is on in Orange county courts to prevent the owner of a ranch from cutting eucalyptus trees which are planted on the line between his ranch and that of a neighbor.

The latest fish story from Imperial valley is that one poultry owner has arranged an automatic fish catcher on the banks of the canal so as to catch all fish and throw them over into the chicken yard. Next.

Some growers at Riverside are disturbed over the appearance of a brown spot or rusty appearance which has occasionally apeared on some of the finest packed oranges after arrival in Eastern markets.

Riverside's local committee in charge of arrangements for the coming State Fruit Growers' Convention to be held the last of this month are: James Mills, chairman; C. E. Rumsey, J. H. Reed, E. W. Holmes.

The Coast

The farmers' school at St. George, Utah, enrolled 250 people.

A force of inspectors has been appointed at Wenatchee, Washington.

Orchardists at Natches, Washington, are busy with spring spraying.

One bunch of sheep in the shearing camp at Cisco, Utah, aggregates 00,000.

Puget Sound points shipped during the past six months 16,000 bushels of wheat.

Farmers at Huntsville, Washington, are improving roads by Macadamizing.

Testing of cows for tuberculosis is being carried on in many dairy sections of Oregon.

Wool growers of Utah have had a delegation at Washington to fight the Curtis Grazing Bill.

Work has begun on a cannery at Lewiston, Idaho, which will have a capacity of 20,000 cans a day.

Sheep at north Yakima, Washington, have wintered exceedingly well and shearing has already begun.

Colorado has a "spud special" train which, with a corps of lecturers, visits its principal agricultural sections.

From the one station of Freewater, Oregon, three quarters of a million dollars worth of fruit was shipped during 1907.

Oregon wool growers report finest grade of wool this year caused largely by the almost universal dipping for scabies.

Hop growers at Mt. Vernon, Washington, are discussing the idea of plowing up at least one-half the acreage of hops.

The National Canners' Association is advocating the erection of a canning factory in many districts of the inland empire.

Rowdies at North Yakima recently destroyed over 400 trees in orchards where Japanese and Chinese had been employed.

The Oregon Agriculturist declares that the old time sulphur lime and salt is proving to be the best to surpress San Jose scale.

Washington says that she proposes to have a better exhibit of fruit at the Alaska-Yukon Exposition than California can possibly produce.

The fruit growers' special on the Spokane and Inland Empire R. R. in Washington last week was given large attendance at all its meetings.

Farmers near Salt Lake are bitter in condemnation of the American Smelting Refining Company for vast damage done to crops and loss in real estate values.

The Farmer says the homestead lands are becoming exceedingly scarce in the northwest and that farmers who wish to hold their claims must comply strictly with the law.

It is apparent the bulk shipment of grain will not come to the Oregon and Washington sections this year if the vast number of sacks being ordered by grain growers is any indication.

A poultryman near Honolulu has established a world's record in egg laying at which his six birds produced 1494 eggs in 365 days. In doing this these birds gave a net profit og $2.50 each.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

Eggs for Hatching

From Carefully selected purebred stock of

White Minorcas **White Leghorns**
Buff Orpingtons **Aylesbury Ducks**

For full particulars and prices on eggs and incubator chicks apply to

Coulson Poultry & Stock Food Co.
Petaluma, Cal.

Beef Scraps **Raw Bone**

GUARANTEED ANALYSIS:
Protein 65%
Fat 8%

Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps. No fertilizer ingredients in **these** Beef Scraps.

GUARANTEED ANALYSIS:
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Made of Clean Beef Bones, surplus fat removed. Cleanest Raw Bone on the Market.

Pure, Clean Animal Matter Poultry Foods

WESTERN MEAT COMPANY 6th & Townsend Sts.,
SAN FRANCISCO CAL.

Baby Chicks and Hatching Eggs

Thousands of Chicks of all varieties hatching every week. Buy your Chicks and Eggs here and save money. We can sell you thoroughbred eggs of any variety for less than you can get them anywhere. All eggs guaranteed. Send or phone for price list.

Pioneer Hatchery Co.
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Main 5651 F 1635

Profit in the Poultry Yar

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed management, disease and its prevention will be answered through these columns

THE CALIFORNIA HEN.

I have read of Maud on a summer day
Who raked the sweet alfalfa hay;
I have read of the maid in the morn.
Who milked the cow with the crumpled horn.

I have read the lays the poets sing,
Of the rustling corn and the flowers of spring;
But of all the lays of tongue or pen,
There's naught like that of the California hen.

Long before Maud had raked the hay,
The California hen commenced to lay;
And before the milkmaid had stirred a peg,
The California hen had laid an egg.

The corn must rustle,
The flowers must spring,
If they hold their own
With the barn-yard ring.

If Maud is in need of a Sunday gown
She doesn't hustle alfalfa to town;
But she goes to the store and buys a suit
With a basketful of fresh hen fruit.

If the milkmaid's beau makes a Sunday call,
She doesn't feed him on milk at all;
But works up eggs in a custard pie,
And stuffs him full of chicken fry.

And when the old man wants a horn,
Does he take to the druggist a load of corn?
Oh, no! He simply robs a nest,
Takes the eggs to town—you know the rest.

He hangs around the courthouse ring,
Talks politics and other things,
While his wife stays at home and scowls;
But is saved from want by the self-same fowls.

For while her husband lingers there,
She watches the cackling hen with care;
And gathers eggs, and eggs she'll hide,
Till she saves enough to stem the tide.

Then hail all!
The California hen.
Throw up your hats and emit a howl,
For the busy, persevering, useful fowl.

Fruit may be king,
But it's plainly seen
That the cackling hen's
The California queen.

—Ex.

WHITE DIARRHEA OF CHICKS.

As the warm season approaches and we begin to get our yards filled with young chicks, we should take every precaution to prevent what is considered the most dreaded disease known to poultrymen. Many poultrymen say that where the disease prevails it kills from 60 to 75 per cent of all chicks hatched, and that when it once gets a start it is very hard to control.

In a Bulletin No. 128 issued by the Bureau of Animal Industry, U. S. Department of Agriculture, by Geo. Byron Morse, M. D. V. S., which we print herewith in part, more stress is laid on the prevention than the cure. We would advise our readers, if the flocks have been troubled with "white diarrhea" to follow the direction given here. Try to prevent disease as it is almost an impossibility to cure chicks after they are attacked with it.

Dr. Morse Says:

"White diarrhea of chicks," began to come into the laboratory, and microscopic examination of the contents and walls of the greatly distended and necrosed ceca or blind intestinal pouches, brought to light the destructive invasion of the lining cells by this minute but malignant microorganism.

Accurate researches in subjects of such wide reaching import necessitate much time in experimentation in order to establish all points involved in a successful war against so subtle a foe. However, the pathological division is receiving, from both scientists and poultrymen, numerous letters asking for the func mental facts of our investigatio and it hardly seems just to w hold this knowledge pending t carrying out of experimental stu many of which could be undertak on a far larger scale by poult plants and experimental statio Hence this preliminary report.

Description of the Disease.

White diarrhea (typhlitis coc diosa) of chicks is an inflammati of varying severity of the ceca, blind intestinal pouches, caused the presence of Coccidium tenel an intracellular parasite belong to the class Sporozoa, of the phyl Protozoa, the lowest division of animal kingdom.

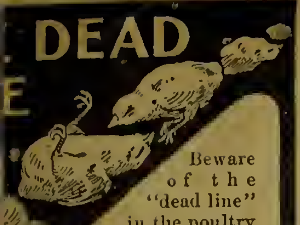
This disease claims as its vic mostly chicks between two and weeks of age. The symptoms dullness and weakness, accompa by a white, pasty, fecal discharge. this discharge may often be det by the microscope large numbers circular, sometimes slightly o cysts 12 to 15 microns in dia containing granular matter may fill the cyst or may be tracted to occupy only a small tion of the cavity. These are permanent cysts of Coccidium te lum. Post-mortem examination veals the blind pouches, or ceca, r markably distended and packed w a yellowish white, cheesy materia which sometimes exudes into the abdominal cavity through perforation in the cecal wall. Examination o this necrotic material shows so permanent cysts, and in the scrapings from the inner wall of the c cum, placed under 'the microscop are to be found epithelial cell markedly distended by the invasion and development within them of this parasite. This invasion of the cell results in its final destruction and separation from the wall which it forms the lining; it then becomes a constituent element of t pasty catarrhal exudate which ch acterizes the feces in this affect In many cases the lungs show t same necrotic change, in some stances the entire lung being tr formed into a solid yellowish w chessy mass. This appears to the so-called bhooder pneumonia.

Coccidium tenellum is freque y found in the intestines (especial the ceca) of chickens of all a Thus the droppings contain the permanent cysts which require on warmth and moisture for their development into sporozites by which th disease is transmitted to other bird When received by chickens into their digestive tract in food or grit soil with infected droppings, the c wall bursts or is dissolved and th sporizites are set free. These penetrate into the epithelial cells, where they grow to great size as schizont, causing thus the destruction of the cell.

Treatment.

Treatment of coccidiosis in chicks is almost futile. An attempt might be made by the use of calomel, one-tenth of a grain, or a few drops of castor oil containing 1 to 3 drops of turpentine. Along with this, 5 to 10 grains of sulphate of iron (copperas)

DEAD
E



Beware of the "dead line" in the poultry business. When your hens are droopy and your chickens dying because of lice, it's time to re-
rganize and take a fresh
rt. Lice cost poultry-men
nds of dollars a year—dollars
ig t easily be saved by a
esort to a sure remedy.

Instant
use Killer

e so thoroughly and effectu-
t one application will most
end your trouble. Instant
Killer is the formula of Dr.
I.D., D.V.S.), and destroys
horses and cattle, ticks on
abbage worms, rose slugs and
melon, squash and cucumber
It is also an excellent disin-
and deodorizer. Comes in
or cans, hence easy to apply,
you can dust it over roosts,
nd platforms in a few mo-
time. See that the word
t" is on the can—none other
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on a written guarantee.
35c. 3 lbs. 85c.
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White Leghorns
The Kind
That Pays

reeding birds I each year select
of my handsomest, earliest de-
pullets and trap nest them dur-
entire first laying year. The
son from these I select only
ving satisfactory laying records.
eeding pens are only hens of
orth in their second and third
nd no bird that has ever shown
of disease. Each pen mated
ns to one handsome cock. I be-
re is not in California a hand-
better lot of birds and few as
n furnish eggs for hatching
se birds at $1.50 for 15, $7.50 per
0 per 1000. Let me book your
w.
ndence solicited.

S. E. Gregg
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eading shows in England.
at the State Fair, San Jose
and Oakland, 1906.
State Fair and San Jose, 1907.
for sale and Eggs in season.

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reeder of Buff and Black Orpingtons
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rizes San Jose '06, and State Fair '07
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Winner of 1st pen at Breeders' Show
Satisfaction Guaranteed
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ite, Typical Birds. Stock and Eggs For Sale.
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eaudry Ave. Los Angeles Cal.

should be dissolved daily in one gallon of drinking water.

Prevention.

The essential work in battling with this disease consists in prevention. This must begin with the eggs used for hatching. These should be thoroughly and antiseptically cleansed by wiping in 95 per cent alcohol. If artificial incubation is used (and in this method lies the great hope of success,) the incubator if used, before, should, previous to receiving the eggs, be carefully washed with antiseptic solutions and exposed to the sun. The egg tray should be scalded or flamed. The floor of the nursery should be movable, so that it may be taken out and sterilized, and if made of burlap the old piece should be torn off and a new piece mounted on the sterilized frame. The same precautions should be used with the brooders. The soil to which the chicks have access should be well covered with lime, dug up and exposed to the drying effects of sun and air. With all the foregoing precautions, absolute freedom from the disease cannot be guaranteed without further experimentation. At least one German investigator has found the coccidia in the white of the egg and in the shell, which has gathered them up in the passage of the egg through the cloaca.

If natural incubation is practiced, the hen for a week or two before being set should be treated with one-quarter to one-half grain doses of sulphate of iron daily, with occasionally an active purgative, such as calomel 1 grain or castor oil one-half teaspoonful containing 5 to 10 drops of turpentine. The eggs, cleansed as directed above, should be placed in a perfectly fresh nest, which may be sprinkled from time to time with a little lime. After hatching, the hen with her chicks should be placed upon ground that has been thoroughly sterilized, as described above, and at least every few days moved to fresh ground which has been treated in the same way and from which all chickens have been debarred.

AROUND THE YARDS.

Cleanliness in yards, coops and houses is a necessity.

* * *

Feed well, keep the chicks growing. Early maturity means winter eggs.

* * *

It is not a good plan to yard chicks of different sizes in one yard; the little fellows will get the worst of it.

* * *

No matter how good your parent stock, unless the chicks have proper treatment they will never develop prize winners.

* * *

Poultry for pleasure is all right for a while, but it soon gets monotonous. A flock that lays and pays is a real pleasure.

* * *

Now is a good time to look for ilce and the "little red mites." Don't let them get a start. They don't like paint and whitewash.

* * *

Wm. Starbuck of Fullerton has a Barred Plymouth Rock hen a year old with a record of 172 eggs in seven months. Up to the end of the fifth month her record was 151 eggs. Mr. Starbuck says this is the best record ever made in the world, and that 200 a year is a good record. The little hen is still making good every day and at no time has she

Feed the Chicks and Kill the Gophers

West Coast Chick Feed

A full, rightly balanced ration for the little ones, to be fed dry. All pure feed, no filler, no waste. The biggest seller because the best made. Keeps them growing and healthy. For sale by many dealers; if not by yours send direct to us.

Bille's Gopher Poison

is most attractive to gophers, squirrels, etc., but sure death. Endorsed by Agricultural Colleges and Experiment Stations. Has had the greatest success for years in the Middle West, and also here in California last season. Circular with many testimonials and Affidavit of 201 killed in one day. If your dealer hasn't it, send $2.50 for two bottles, (not less than two) express prepaid by us. Money refunded if not as represented—so printed on the bottle.

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818-826 San Fernando St. (Through to Alameda) Los Angeles, Cal.

5,000 MEN OUT OF WORK

Can feed a few hens on the scraps from the table and have eggs for the family every day in the year—but

Little Chicks should be fed on Excelsior Chick Food

prepared from clean, sound grains, seeds, beef scraps and charcoal in proportions to make a well balanced ration and produce strong, healthy chicks and keep them continually growing. For sale by all dealers and grocers. Take no other.

Excelsior Cereal Milling Company
242 Central Ave., Los Angeles

LOS ANGELES INCUBATORS
RELIEVE POULRYMEN OF HATCHING WORRY.

PEERLESS
CHICK
FEED
RAISES
EVERY CHICK
EVERY TIME

PEERLESS
EGG
FOOD
PRODUCES
PLENTY OF EGGS
ALL THE TIME

Lee's Carbolic Sheep Dip
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Our strain have won in strong competition on the Pacific Coast
Day old Chicks, Incubator lots our Specialty, $15 per 100
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A Balanced ration made of pure grains (cracked), Seeds, Beef Scrap Charcoal.
No grit no waste or bowel trouble in feeding this feed.
Will send freight prepaid to any address for $3.50 per 100 lbs. Arizona points 50c extra.

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Trap-Nested White Wyandottes

That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribons, all at Los Angeles County Poultry Ass'n Show, Dec. 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah.

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After hatching your chickens and raising them successfully up to 5 or 6 weeks old, they are worth something to you, and every one that dies now is a distinct loss in the cost of feed you have used, as well as the cost of hatching and subsequent care of them.

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Is what you want and that is where

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Coulson's Growing Chick Food is rich in protein, owing to the meat and bone it contains. The grains and seeds in this food are not all ground up, a portion being granulated, so as to give their digestive organs sufficient work to insure health. The food contains a large variety of ingredients, which furnish the growing chick all it requires for quick, healthy development.

COULSON'S GROWING CHICK FOOD is especially adapted for feeding dry in hoppers, as well as dampening as a mash.

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We trap nest our hens. Why set from poor layers? Bird laying qualities are inherited the same as any other. This year we have discarded all old matings and have gone to the next generation. Cocks have 9 generations of 200 egg mothers. Hens all from 200 egg mothers and from cock with 6 generations of 200 egg mothers, and are layingfine. We have divided into pens according to the way they are showing up in six months laying. $2.50 for 13 eggs from first pen. $1.00 from 2nd. until they have time to make longer records. (Except from our one best, not for sale. We claim the world's Barred Rock, 6 months laying record for this one.) Do you wish to hear about our prize winning Buff Orpingtons and Silver Wyandottes? We have something to crow about. No Sunday sales or visitors.
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tried to throw up her job to "set."

* * *

The results of over-crowding are, or ought to be, sufficient to prevent any right-thinking person from practicing and propagating the abuse. In the first place, it is an act of cruelty to the fowls, and, whether this over-crowding takes place in the hen house or in the runs, the results are equally disastrous, as birds kept in such unnatural conditions cannot be other than diseased and neither they nor their eggs are fit for consumption; and yet when we come to think of it, who can say how many thousands of such eggs find their way into the markets every year?

DUCK RAISING AS A BUSINESS.

To the average observer the sight of thousands of ducks is one not to be forgotten. At the same time there is no poultry establishment where visitors are less desired than on a large duck farm. The Pekin duck is probably the most timid of all domesticated ducks, and strangers, as a rule, are prohibited from visiting on this account, as all stampeding, scaring or otherwise disturbing the ducks cause loss in flesh, vitality and profit.

Firmly Established.

The duck business of today is probably one of the most firmly established profit-paying branches of poultry husbandry. But there is no branch of poultry farming where failure is so certain when proper methods are not followed. It requires a large outlay of money, and an extensive and varied experience. It takes time to develop a market and to know when and where to ship the product to advantage. The person who has the chance to visit a large duck plant should consider himself fortunate in the chance to see how ducks are raised on a large scale and on a profit-paying basis.

Long Island has the reputation for ducks, and here and there over the Eastern States are to be found a few duck farms of considerable size. In other parts of the country very few large duck farms are in evidence. Hundreds of thousands of ducks could be raised in this country in excess of those already produced, and still not over-supply the market. There are numerous places where they could be raised and disposed of at a profit.

A Little Work.

While one of the most profitable branches of the poultry business, there is plenty of good hard work connected with it, as I know from practical experience. It means early to rise and late to bed if you expect to realize a fair profit. The ducks will be up and ready for their morning feed as soon as it is light, and it is not good policy to keep them waiting long, as it will cause them to fret off good flesh, or will affect the egg yield. From the beginning of the hatching season until the last batch for the season is ten weeks old, the caretaker must work early and late.

When Pekin ducks were first introduced, numerous persons went into the business with little or no experience, expecting to get rich in a hurry. Prices then were high and, naturally, values declined, because it takes time to create a demand for a new market product, and in consequence "green ducks" could scarcely find purchasers at any price.

Good Prices.

But during the spring months, in the New York and Boston markets, "green ducks" bring from 20 to 35 pound at wholesale. The greatest demand and produc June, July and August, when average 15 to 20 cents per wholesale. The lowest pri these ducks have brought in in New York and Boston mar cents per pound, while the h record is 35 cents. Remem are all wholesale prices paid mission men. The retailer g 10 to 15 cents more per pound grower.

The census of 1900 shows number of ducks (all kinds) r nually in the United States 807,358, and during the pa years has been greatly incre pecially in the eastern state more ducks are being raised e for the New York and Boston whose demands are hard to s Michigan Farmer.

BUILDING UP THE SIZE VIGOR.

I have had White Leghor years. I selected this kind of their beauty and utility, c with noble carriage and othe able traits. I long ago det to try to produce a larger fo the standard type of the I family. This I succeeded in by constantly and carefully eggs for hatching from my v specimen birds only, and al ways breeding for points. short course of experimenti above line, I began to obtain sired results. My fowls i materially in size, while at t time my constant selection best laying strains among my kept showing a steady incre egg production that was most fying. Now after these years tient work I find that I have a that is unexcelled in the points of increased size of bo laying qualities. Of course I d claim that all my eggs hatc perfect chicks but that the g average shows a decided gain in the direction of size of bo prolific laying qualities.

You requested me to give a ment of my method of care and etc. I have my ranges in my orchard, where there is ple good room and shade in hot w I keep the houses perfectly cl feed only good, sound gra fresh, sweet mill stuffs, ther curing the highest quality an both of eggs and poultry f use. I find also that by us such grains as above stated, are far stronger in vitality a hatching percentage than eg duced by equally good hens manner of rations, some goo sour and mouldy, such as is t supplied to laying fowls; thi point that I am sure deser attention of poultry raisers. a supply of all kinds of grit before my flocks, and fresh water is not neglected; gree is fed regularly and modera winter. Instead of using str scratching purposes I provide sharp sand, which I find pre ra to straw from a sanitary poi view.—Mr. Rittenhouse in R ral N Yorker.

Actual pleasure and culture may found in the humdrum duties every day life if they are done in t right spirit and with the determin tion to do everything in the be possible time and way.

CARE OF CHICKS.

l give my method of caring le chicks, which I find to be l for me.

of all, one must use eggs for ion from good, healthy stock, ise one could not expect to uccess in rearing the chicks. the hen to finish hatching, emove the chicks from the place them in a basket lined woolen cloth and place an- over them. Do this in the part of the day, so the hen will mple time to exercise and take l dust bath. Prepare a good, coop for their future home by it a fresh coat of whitewash. evening give the hen a thor- dusting with a good insect pow- d place her in the coop. Now he baby chicks and grease the their heads with thick, sweet with a few drops of oil of ras added. to rid them of lice. them in the coop with the r hen, giving each hen about chicks in cold weather and ver twenty-five in warm weath- lace a dish of coarse sand and al before them, also fresh so they can drink but not get

not feed them until they are eight hours old, then give them bread crumbs. Boiled egg, ed fine, is excellent for them. should have a feed of green and meat scraps once a day. must be fed often, about five a day, until they are ten days hen three times will be suffi- Feed what they will clean up minutes. If any is left, re- it. Have a wire-covered run nt of the coop, and in this scratching material and scatter iety of grains (cracked corn, and millet seed is best) in it, keeps the little fellows busy, them exercise. They should d dry feed, as I find from ex- ce it will give best results, as is not as much danger of feeding. They should have an occasional feed of ground green bone. As to amount to feed, one has to use their own judgment, but never feed more than they will clean up.

Don't forget to keep a close watch for lice. Dust the chicks often and keep the coops and runs clean. Lice are often the cause of the so much dreaded bowel trouble among little chicks. The only way to fight lice successfully is to be on the lookout for them every day.

Keep the hen confined in the coop until the chicks are a week old, then on bright days she can be let out for a while. When the weather is warm let them go most of the time.

Success in caring for chicks is good care each day. They do not need any coddling, as a great many think. What they need is a good, warm place to roost. Keep them free from vermin, giving them clean, fresh water to drink and good wholesome food to eat, with plenty of grit. Supply these and you will find the care of little chicks a source of pleasure as well as profit.—Commercial Poultry.

FEEDING CHICKS.

It is my opinion that a great many chicks are killed or injured by feeding too soon after hatching, says a writer in Country Gentleman. Some breeders seem unable to wait until the chicks are all hatched out before they give them something to eat. Twenty-four hours is none too long to wait before feeding the first time. Thirty-six to forty-eight hours will, in many instances, be better.

Then, when you start them in, give only good, wholesome food. Avoid wet, soggy food. Many chicks will live on such food; some may thrive and do as well, apparently, on wet corn meal as on anything else, but this does not prove that it is best for them. Bowel disease has carried away a great many promising broods of chickens, but this trouble does not always come from feeding the chicks too soon, or from improper food. It will sometimes show itself when they have had the best of care and food. It was stamped on them when they hatched.

For the last few years, I have fed everything dry, and, as a result, have lost a much smaller percentage of chicks from this complaint. Some seasons almost every hatch will show more or less of this trouble. In such a case, I attribute it to the breeding stock or to the incubating, more generally to the breeding.

IN DUE COURSE.

The learned old German scientist would not, under any circumstances, hasten his exceedingly deliberate speech. And when he spoke English he was particularly careful of his words. He was in a Baltimore restaurant and of course ordered oysters. A plate was brought glistening with oysters on the half shell. They could not have been more attractive.

"I cannot eat these oysters," began the German in a measured tone. The waiter hustled the dish off and soon reappeared with a second appetizing plate.

"I cannot eat these oysters," began the German again in calm, measured cadences. The waiter hurried away and returned with a third dish. "I cannot eat these oysters," said the German.

"Why, what is it, sir?" asked the waiter, this time pausing for a possible explanation.

"I cannot eat these oysters, because you have not provided me with a fork."—National Farm.

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Water glass for this purpose must be pure in quality and the correct density. This glass has been specially imported for this purpose and we guarantee results.
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Poultry Breeders Show our birds won bbons on 10 entries. Eggs $1.50 per Ducks, $1.00 per 13. A specialty of for incubator hatching from breed- stock 2 and 3 years old; large size best of layers. $6.00 per 100. Indian nners, prize strain, $5.00 per 100.
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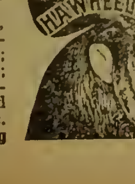

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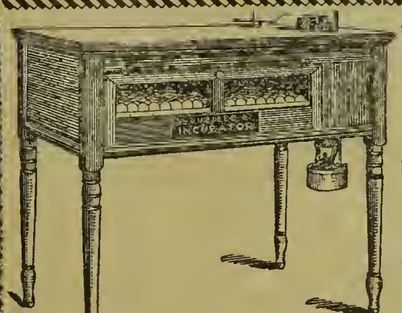

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SUCCESS NOW ASSURED BY USING
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Is the very best location for YOU if you are in the poultry business. Because you can make MORE MONEY out of poultry there than you can anywhere else in Southern California. Apply for particulars to
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Are well hatched — are hatched as the hen hatches. Four years ago we could handle 3,500 eggs at one time, but with a present capacity of 100,000 eggs we can not fill our orders during the Spring months. Our chicks are always strong and no weak or defective chick is even sent out knowingly. The Petaluma plant sells White Leghorns only.
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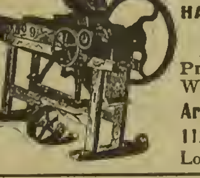

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Four pens, headed by Red Ranger, Red Flame, Red Scout, Red Cloud. Eastern winners. Eggs, standard utility, $1.50; select fancy, $2 for 13: utility stock. $2. A. B. WHITE, DOLGEVILLE, CAL.

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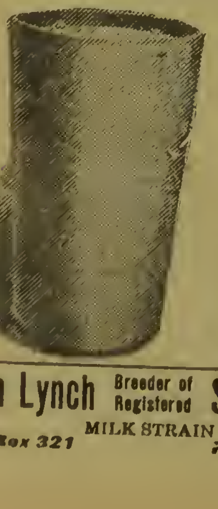

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SUMMER CROPS.

THE days grow longer and the heat strengthens until the time comes to sow sorghum. Sorghums are of two classes the saccharine and the non-saccharine types. The more familiar non-saccharines are Egyptian corn, Milo maise, Kaffir corn and the detested Johnson grass. The first three come in well for catch crops. The last is a gay deciever that appears well, but becomes a knave, in that it will not depart and will not make a complete stand of itself. Even the Bermuda does make good summer returns for the land it takes. Egyptian corn is the most sown of all catch crops. The red variety is the most popular one in this part of the valley. The white form affords abundant growth of stalks but the seeds are not well protected in the head. The birds harvest it readily, the dear little dickey and dollie birds make havoc with the grain portion. The red variety is not as palatable to them and pretty well protected in the heads so it suffers much less from the birds.

Fodder.

The stalks of Egyptian corn are not relished by dairy cows; they will reject too large a proportion to make it a profitable fodder crop. Kaffir corn affords more abundant leaves and makes a fair fodder crop when sown thickly in the rows. The objection we have found to it, is not as a feed but as too expensive to remove from the land. We have too little frost and rain to help us get the roots out of the land. One field of extra rich land gave a heavy crop and seemed to pay well until we found it necessary to put on eight horses and a tree digger to cut out the roots before they could be turned out with the plow. They had then to be hauled off the land; the dump was in a sink hole and three years afterwards they were at last burnt up.

Saccharine Sorghums.

In cultivation the various varieties are all of the one type. The seedmen have brought the same plant from different countries of the world and given it various names. The standard variety is the Early Amber. Its two most valuable qualities are that it will grow in alkali land that would not raise Indian corn, and that it can be sown at almost any time in the summer. After the Indian corn is well started we turn to sowing the sorghums. In sowing the field it may be preferred to broadcast the seed and harow it into the ground. We find it preferable to drill it in rows. The weeds can then be kept down and the sorghum can be irrigated. The use of water naturally will increase the yield many fold.

Soiling.

When the sorghum has reached the second joint, it may be cut for soiling, by setting the mower high enough to leave the first joint next to the ground; the same root will send up new tops until the growth is checked by frosts. About half an acre to a cow will give abundant food for the herd. This it will do with the minimum of growth, with the usual growth there will be much to spare. Whenever there is more sorghum than the cows can eat, begin to make it into hay. The making of this hay has to be watched. After two or three days in the windrow the leaves ar into small cocks. These coc watched and opened and turn side out at least once during t ing process. The hay should and mellow not rattling dry finished. The colt and pigs ar as fond of this hay as the cattle

Sandwiches.

Where straw or foxtail hay had cheaply enough, a sorghum wich is easily prepared. It mal acceptable change in the fall a ter feed of the cows. A layer thick of the hay or straw is p the ground, then a foot of the fresh cut sorghum, then another of hay. The sorghum is always a foot from the edges of the The stack does not have to be at once, but a layer every othe will answer, remembering the must be the dry stuff. The should be planned to be not less twelve feet high. The very to made of two or more feet of the or straw rounded and raked o shed the water like any other fo hay stack. When the stack is out it is cut down from an end a hay knife. This stack when with alfalfa hay will keep the lightly worked stock rolling it is very nearly a balanced rat

Sorghum.

Sorghum forms a dense shade can be used to smother Berm grass. The Bermuda sod is broken the first rains and turned on e not thrown clear over, then after couple of weeks it is set on fire, a all is burned that can be, it is ra over and the piles again burnt. B ley is then sown thickly on the la cut early for hay and the land ir gated and again plowed for sorgh burning any Bermuda roots that c be raked up.

The odd corners not covered w the smother crop must be kept ra and burnt off. On ditch banks where the land is not desired for c tivation, after the tops are hoed a liberal soaking of crude oil often make an end to the Berm This way of destroying this pest this to recommend it, that whil are smothering it out we are st curing some returns from the l

Pumpkins.

Pumpkins should be sown in e odd corner; a little hoeing and haps a bucket of water will b them around into a good profit. T are a hardy and profitable crop that quires little expenditure to produc good return. The love the cows h for pumpkins is almost as great darky has for watermelons. The p and colts also relish them when th are chopped up for them in the fi The chickens find good egg food in t yellow flesh of a sound pumpkin W have many every year that wo make Cinderella a fine coach to go to the ball.

Pie Melons.

Once sown these come up year after year so that a ptach is self-sustaining; like watermelons they seem almost to grow themselves. The principal use of these is to furnish succulency to the pigs' food. Cows rarely can be induced to eat them, so they are only grown in waste places. While these crops given do not suggest a wide range, still as all are abundant growers they only need tc ɔfully studied to make dairy ɀ a success. We fail constant- the little things in California. ıch land, too much waste and ch neglect of a crop after it is brings up our losses to a high It takes a lucky year to pull debt and a couple of bad ones he average farmer paying all nings to the bank. The utiliza- f little things is when we learn ne of our great lessons in life stered. When all the odd cor- f our characters as well as the ɔrners of our lands' produce instead of weeds we will be rich, l. It is this care for little crops nakes the German and Swede rs grow rich on the cheap lands merican farmers had passed as less, for "Many a Mickle makes ̧kle."—M. E. Sherman.

RPLEXING HOG DISEASE.

swine industry in Colorado is ed by a disease which we have eard mentioned in California, may be well for hog breeders ow of its existence.

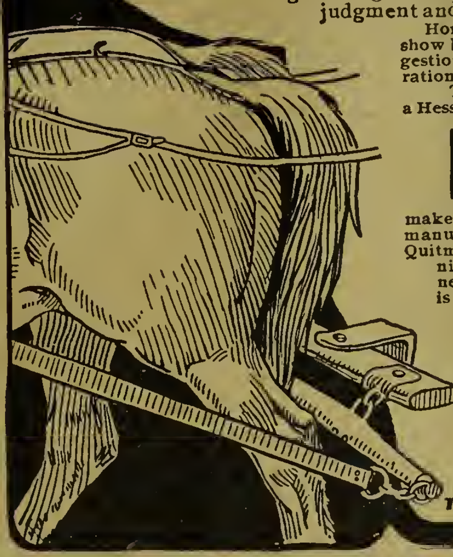
a recent interview Dr. Geo. H. r head of the Department of nary Science of the Colorado iltural College, at Fort Collins, hes the fololwing timely ad-

e raising of hogs promises to ıe of the great industries of ado. It does not take long to good-sized herd of hogs; it often less time to get rid of them, if ıne of two or three diseases gets g them.

various points in the State a e has made its appearance g hogs which has caused some and much apprehension on the of hog raisers and those who contemplated going extensivelly the business. The disease is ıratively a new one. It is n to be caused by a specific which is found in the litter n everything with which dis- animals come in contact. The l business of this germ seems to cause gangrene. In nursing ttle pigs irritate the nipple of ıother. The inflamed places are ed by the germ and the little then become infected from the :r.

e first thing usually noticed is e small pigs, which become and emaciated. Examina- of the mouth reveals the pres- of large, sloughing areas; often eeth fall out. In some cases will be a cavity extending gh the snout or the lower jaw.

here the germ often invades ntestinal tract, causing ulcers, ı perforate the bowels. The ıe is found distributed over the to such an extent that local ntine laws seems of little avail. perplexing part of it is that it is associated with hog cholera the report to this effect has us an unenviable reputation. disease, when not associated hog cholera, can be checked. most every case the farmer sits and does nothing. In a few good money is paid out for nostrums. This disease has ne a very serious matter, but not necessarily menace the hog stry. Lethargy, combined with knowing how, has in most in- ces resulted in the farmer losing is small pigs and many of the r ones. In the vicinity of Fort ns there is evidence of this dis- and in a few instances it is



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In Pounds of Feed

Working energy in the horse is much like steam in an engine—both are developed by economical fuel consumption. If, then, the digestive apparatus of the horse extracts from its food the full amount of nutrition which can be assimilated, he is certainly in the best nurtured and most vigorous condition for hard labor. Now digestion in the horse may be easily deranged, because he possesses a small stomach and high-strung nervous system. Hence heavy feeding requires judgment and instant correction of the first wrong symptom.

Horses receiving regular small doses of Dr. Hess Stock Food show best as drivers or workers. It corrects a tendency toward indigestion and strengthens the organs up to a point where the largest amount of ration may be assimilated. It increases appetite so that the horse takes food with a relish.

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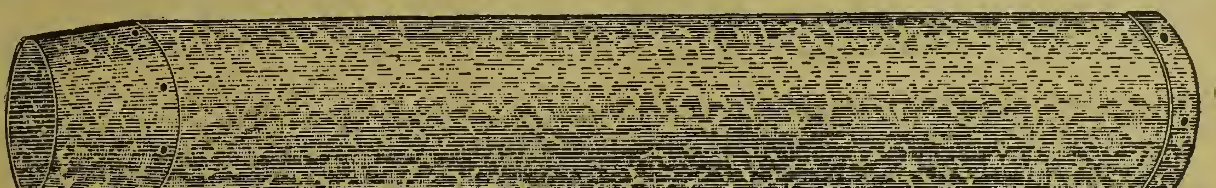

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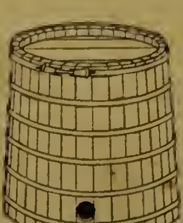
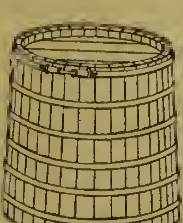

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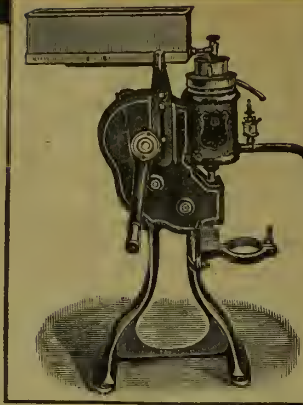

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combined with cholera. The following steps are advisable: If your hogs are healthy, establish a quarantine. Be careful about bringing in any unhealthy animals and do not allow your neighbor to bring the infection in on his boots or come there with breeding animals. If the disease is already with you, get busy.

"In the first place, kill all animals that are badly affected; then take away all the healthy animals and put them on healthy ground by themselves. Disinfect the premises by burning all refuse. Use whitewash, zenoleum, carbolic acid, and other disinfectants freely. And, most important of all, pick up the little pigs and dip them in a tub containing a solution of potassium permanganate, one ounce to a gallon of water. Watch the mothers carefully and see that the little ones are not in danger of infection from nursing. Animals with this disease will not be passed for food by the local food inspectors. Therefore, it behooves the butchers to be on their quard in purchasing hogs for the block."

GREEN FORAGE FOR HOGS.

An especialy timely bulletin has just been issued from the Missouri Experiment Station by Dean H. J. Waters giving the results of some experiments to determine the value of different forage crops for hogs.

Thirty-six pigs weighing about 50 pounds each were fed in lots on different forage crops in connection with corn until they were ready for market, accurate account being kept of the cost of gains made.

In cheapness of gains the feeds used ranked as follows: Corn and skim milk, cheapest; corn and alfalfa, second; corn and red clover, third; corn and bluegrass, fourth; corn and rape, fifth.

A saving of about 75 cents a hundred in the cost of gain was effected by using green clover instead of fresh bluegrass. A saving of $1.00 a hundred was effected by using alfalfa instead of bluegrass.

When it is realized that alfalfa comes on early and when properly clipped stays green all the year, its importance as a hog pasture is apparent.

Clover yields more forage per acre than bluegrass, and as shown by these experiments has a much higher feeding value. It is of the utmost importance, therefore, to provide this sort of pasture for hogs.

Keep the weeds down by shallow cultivation while the plants are small. Conserve moisture where necessary by prompt shallow cultivation after each rain. When one cutting is made, stir the ground to promote new growth.

Any little improvement in dairying that will cheapen the cost of the production will sum up the same as an increase in selling price.

To get the maximum of milk which the cows are capable of producing, there must be not only good feed but even management.

It does not pay to let the milk cool before separating. It means a definite loss of butter when it goes to the churn.

Bad ventilation in the dairy house will sometimes cause the butter to be pale, as well as letting it get too sour.

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

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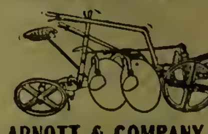

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LAKE AVENUE POULTRY YARDS—WON 5 cups, 27 ribbons on Reds this season, including five straight firsts at Breeders' Show. Standard eggs $2.00 for 15, $8.00 for 100. Special matings $5.00 and $3.00 for 15. New mating list. 755 N. Lake Ave., Pasadena.

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FOR SALE—S. C. RHODE ISLAND RED hens and pullets and Black Minorca hens. Eggs for hatching from pen of Hoganized R. I. Reds, $1.50 per 15. MRS. L. M. RUCKER, R. F. D. No. 1, Chico, Butte Co., Cal.

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SEND 25c FOR BOOKLET "PHEASANT Farming." Tells how to raise pheasants. Many beautiful halftones. SIMPSON'S PHEASANT FARM, Box C247, Corvallis, Oregon.

MISCELLANEOUS.

DELMONICO'S CHEF SAYS: "THE ANchor egg separator works perfectly; no well regulated hotel or household can afford to be without it." Send ten cents, or ten names of persons keeping poultry, and we will send one postpaid. WEST COAST MILL, 818 San Fernando St., Los Angeles, Cal.

I HAVE A RECIPE FOR THE PREVENtion of Potato Scab, which I will forward to you for 25 cents silver. This recipe is the result of much scientific research and experiment and has been successfully used by hundreds of farmers throughout the country. Address JOHN J. WALTER, 121 E. 4th ST., Los Angeles, Cal.

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FOR IMPERIAL VALLEY NEWS SUBscribe to the Brawley News, BRAWLEY, Cal., $1 a year, sample copies free.

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FOR SALE—SEVENTY-FIVE COLONIES of bees, all in patent hives. Inquire of J. M, SPENCER, Box 491, Oakdale, Cal.

FARM LANDS FOR SALE.

FOR SALE FOR $1750—AN UP-TO-DATE chicken ranch. Five hundred Rhode Island Reds. Well advertised. Good paying business in best inland town in State. If interested address "THE RED" care of Cultivator, 115 N. Broadway, Los Angeles, Cal.

FOR SALE—40 ACRES, LEVEL; FINE for chickens, vegetables, berries, etc., $30 per acre; a bargain. WM. MANTZ, Santa Maria, Cal.

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SABLE AND WHITE COLLIE PUPPIES—Sires, Brandane Wishaw Squire and Glen Fana Bounder, litter brother to Aufield Model. Dams, Ormskirk Gloriana and Presidio Nellie. $10 to $25; 2 to 8 months. GLENALPINE KENNELS, Grandville, Cal.

POST CARDS.

FREE—A VERY PRETTY "FLAG" CARD. An excellent portrait of Admiral ("Fighting Bob") Evans is printed on a beautiful embossed post card showing "Old Glory" in brilliant colors and gold. Send name and address with stamp to WALTER SPECIALTIES CO., 227 South Fremont Avenue, Los Angeles, Cal.

HISTORY OF SEWING IMPLEMENTS.

In the British Museum are the oldest scissors known. They are made of bronze and are centuries old and are of very substantial workmanship.

During the long centuries that have elapsed less changes have taken place in scissors than in any other article used in sewing. Out of the bronze sprang those of silver, gold, brass, iron, steel and, in later years, aluminum and nickle.

The forging of steel scissors involves much hard work, and the cost in the United States is so great as to prohibit competition with England or Germany.

The needle of today is an instrument used to carry the thread in sewing, embroidery, knitting and other similar operations. They are generally made of metal, but bone, ivory and wood are also used. For ordinary needlework they are made of fine steel, and for other kinds of work they are often much larger and differently formed.

The earliest needles were not pierced, but were like awls and were used for making holes in skins through which the long roots of plants were passed. Later, a hole was bored in one end of the stone or bronze needle through which the root was passed, and this was dragged through the leather as it was punched.

Ordinary needles and surgeons' needles have been found in the ruins of Pompeii. The Chinese were believed to have been the first to use needles of steel.

Buttons were used only as ornaments until the eighteenth century, when coats came into style. Centuries ago, before metal was first discovered, twigs, sharp-pointed fish bones and quills were used to fasten garments. The materials for making buttons are numerous, earthenware and porcelain being the chief. These buttons are shaped and baked in kilns. They are the cheapest, selling as low as 25 cents per great gross. These are made almost entirely in Europe, where labor is cheaper than in the United States. Buttons are also made of walrus and elephants' tusks. These are carved by hand and are very expensive. Pearl buttons are always in demand and are cheaper now than formerly. These are made from pearl shells obtained in deep waters off the coasts of Australia and the Philippines; also in the Indian Sea.—Rebeca R. Boswell, Instructor in Domestic Art, Colorado Agricultural College.

Gladioli delight in a deep, rich, mellow soil, plenty of water and full sunshine. Plant in groups. To do their best when potted they require warmth and good drainage.

ALMOST PERPETUAL MOTION.

A Los Angeles paper recently contained an article from which we take the following:

"Perpetual motion is apparently demonstrated at a pumping plant installed by W. I. Hollingsworth & Co., on their Lomita tract, which is located on the main road between Redondo and San Pedro. In an effort to devise a plan whereby the natural gas bubbling up through the water could be disposed of, a hydraulic engineer discovered a method to utilize it for fuel. It has proven a distinct success and the unique spectacle is presented of a huge engine pumping water and gas from a 600-foot well and transforming the gas into units of energy."

This plant was devised by W. H. Frost, of the Western Gas Engine Co., and is, indeed, a remarkable machine.

"The pump is pumping itself," exclaimed the enthusiastic engineer, G. M. McIntosh. Although a little distillate is used in connection with the gas at the present time, later it is expected that more than enough gas will be generated to run the entire plant, and furnish light as well.

"Gas was first discovered when one of the workman touched a match to the discharge pipe," stated Frost yesterday. "Its presence explained the failure to get satisfactory results from the pump. The problem was to get the excess of gas out of the mixture so as to handle both the water and the gas. The well was drilled to a depth of 680 feet. There was a fine flow of water. But as soon as the pump began to work, it developed one-fifth volume of gas, making it impossible to pump the water. I installed a device for getting rid of the surplus gas. Then the pump, which is a centrifugal two-step Eclipse, worked to perfection.

"Next the mixture of gas and water was pumped into the separator and converted into spray. The gas, separated from the water, was led back to the engine room, and the water poured through a flume into the reservoir."

An analysis of the gas shows it to be a hydro-carbon of 800 British thermal units.

Since its successful installation, a number of pump experts have visited the plant to witness its operation.

FARMERS NOT HOSTILE TO MOTOR CAR.

It has become the fashion among some writers and not a few motorists to credit the farmer with a feeling of animosity toward the automobile. In the New York to Paris race some of the drivers complained that the "Peasants," as they called them, charged exorbitant rates for the assistance rendered the snow-bound machines.

G. B. Sharpe, publicity manager for the Studebaker, stated in a recent interview that his own experience with the Studebaker Army Dispatch Car that made the run from New York to Fort Leavenworth, Kansas, most of the way over the same route, would lead him to an entirely different conclusion regarding the farmers' attitude.

Said Mr. Sharpe: "The farmers helped us to dig through snow drifts and brought their horses out to assist us through drifted roads where ordinarily a farmer would not think of asking his horses to go and, considering the service rendered, I do not believe their charges were exorbitant. Furthermore, many of them exhibited an enthusiasm that was, to say the least, cheering to our tired drivers and crew. All along the line our drivers reported the same kind of treatment, and nowhere were they more enthusiastically welcomed than in the great farming State of Kansas."

COTTON SEED FOR THE ASKING.

A sample package of an improved cotton seed will be supplied by the Johnson & Musser Seed Co., of 113 N. Main St., Los Angeles, to all who apply before the supply is exhausted. Those wishing to experiment in cotton growing should write at once for this seed.

Largest National Bank West of Denver and South of San Francisco

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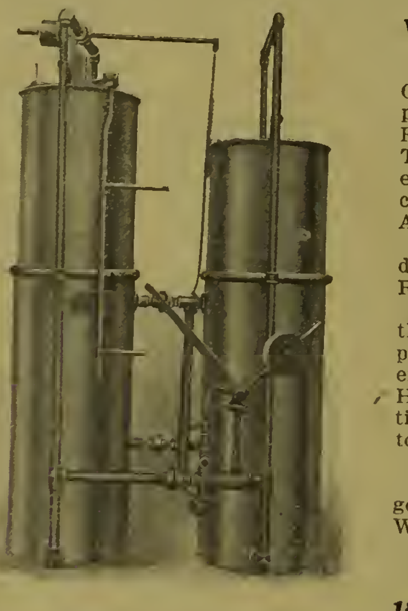

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For Lighting, Cooking and Heating. This Generator is used by the largest hatcheries in California for Incubating and Brooding.

AUTOMATIC, SAFE, ECONOMICAL.

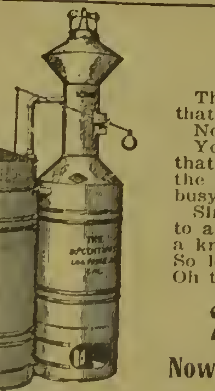
Read what Mr. A. W. Foster, President of the California Northwestern Railway, has to say about them:

Gentlemen: Replying to yours of the 20th inst., I would state that the plant installed for me by the Western Gas and Power Company on my Hopland Stock Farm, is giving entire satisfaction, and I cannot speak too highly of it. Yours truly,
A. W. FOSTER.

Mr. Foster used an acetylene gas generator before we installed our Western. Send for our latest Booklet.

Good reliable Agents wanted.

Western Gas & Power Co.
1842-48 Seventh St., Oakland, Cal



Say, Mr. Cultivator

The boss sent me down to ast you to tell all your friends that we have mooved.

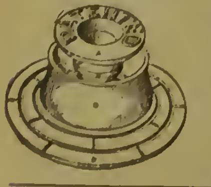
Nope, Im the janitor.

Yep, the other place got too small after pepul got onto that 1908 Model. Yep, that's the one where you can see the feed valve. Bulsy[Well, I guess, we are; keeps me busy rolling em out on the walk to the dray.

Simple to operate? Well, yea'ss I should say so; sold one to a Widder woman whos boy don't know how to eat with a knife and fork, but he can charge the machine all right. So long! You fix it up, tell em all about Acetylene Gas. Oh tell em to come in and see us er elce rite.

20th Century Light Company

Now 738 So. San Pedro St. Los Angeles, California



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Household Departme

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Keep your troubles to yourself;
Put them on an upper shelf;
Far away as it may be,
Where no eye but God's can see.

Other people have their share
Of affiction, pain and care;
Why should you, though sorely tried,
Burden them with yours beside?

Daily brooding o'er your grief
In no way affords relief,
But intensifies the smart,
Turns the arrow in the heart.

Think of others who have known
Greater sorrows than your own,
Keeping all their wounds concealed,
Heroes on life's battlefield.

Give of treasures you posses,
Loving care and tenderness,
Cheerful smiles or sordid pelf,
But keep your troubles to yourself.

THE GIRL PILOT.

"TELL me the worst," said Phoebe, bravely. "I know it's bad or you would not look so serious, Mr. Stark."

The little lawyer fidgeted in his chair. He hated above all other things to be the bearer of bad news.

"Don't be afraid," ran on Phoebe, to put him at his ease. "Is it ten thousand?"

"Less than that," said Stark, slowly.

"Only five?" she asked, with an attempt at a laugh; "four, then?" she added, as the lawyer remained silent.

"There is nothing left," said Stark, sadly. "After the settlements are made there will be between $300 and $400. Of course, the tug will bring something, but at a forced sale little can be realized."

"Sell my namesake!" cried Phoebe, "sell the last of the Ryerson fleet? Why, I should as soon think of selling mother."

Mrs. Ryerson smiled faintly at the sally, but the lawyer's face grew more serious. He despaired of making this volatile young lady realize the gravity of her position.

"I would remind you," he began, clearing his throat nervously; "I would remind you that a tugboat is a rather expensive—ah—luxury for a young woman with so limited a capital."

"Luxury?" echoed Phoebe. "Dear Mr. Stark, it's going to be a necessity. The Phoebe must keep us going."

"I have thought that over very carefully," said the lawyer, relieved to find the conversation returning to a saner plane. "I have gone into the matter with the utmost care. Perhaps had there been a son it might have been different, but since you will have to hire a captain I am afraid it will eat up all the profits and you will have to take time to manage the boat after a fashion with absolutely no return."

"I shall be my own captain," said Phoebe, with dancing eyes. "I am not afraid to work, and I'd rather be out on the water in the pilot house of the Phoebe than selling ribbon or teaching a lot of unruly children."

Mr. Stark made a gesture of despair.

No sooner did they reach a sensible conclusion than Phoebe was off on a new and even more insane tack. He half regretted that he had had anything to do with the matter, but Phoebe's voice drowned his protests.

"I have a master's certificate," she reminded. "I know the boats as well as anyone, and since you admit that the tug can make enough to captain, I guess we'll have to the captain's pay."

Stark argued for an hou Phoebe would have none of hin mother sided with her, and w last, Stark left the house, Ph carried the day, and he w his head sadly at the thoug wild venture.

There had been a time Ryerson Towing Company possessed of a fleet of ha ocean-going tugs. Then evi fallen. Ryerson's partner cided to sell out and go West of the profits of the venture M son had put into the purcha partner's share of the busine

Things had never gone same after that. Some of had been sunk, one had gon boiler explosion and two had to satisfy important creditor only the Phoebe, which John had captained himself.

The succession of misfo sent John Ryerson to his after the funeral, Stark h taken to settle the estate planned to sell the tug and a meager sum realized, but he counted upon Phoebe.

When the towing company a great enterprise, she had j applied for a master's certific one had been granted. She h aboard the boats as a girl, a she had grown too dignified tomboy, she had owned for a small power boat that had no long after the hard times came

She knew every foot of the and she found her father's only too glad to ship under h ter. Within a week after her the Phoebe was scouting a bay and river for business a good share.

After it was found that could be depended upon, s her father's old friends gave tracts and business began to

"I'll revive the Ryerson c yet," she said, exultingly, as in the little home that she w ing so bravely to keep. "One days you'll see me commodor fleet, and it will be a fleet as dad owned."

"You'll be married long bef said Mrs. Ryerson, with a s she patted the smooth brown

The brown head shook in disapproval of the statem

"Never," announced Phoebe. going to stick to the business.'

"We'll wait and see," sa mother, but the kindly fac clouded with anxiety. Somet was a little afraid for her some daughter.

For herself Phoebe knew She held the wheel and sent t be on her course as surely safely as though she were a More than once an adroit n got the boat out of a tight p the crew were wont to brag th Phoebe could lead all the oth through the toughest chan show them a safe way through

By winter the success of th was firmly assured, and Phoebe h self began to believe that the wi dreams in which she had been dulging for her mother's benefit migh come true.

She had steamed up to the coal poc

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They fit perfectly and are extremely comfortable from the beginning. No better values are obtainable anywhere.

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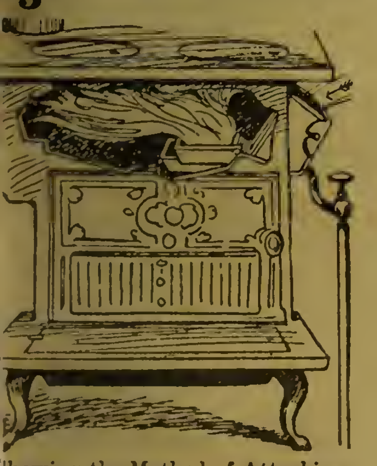

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n writing advertisers, mention Cultivator.

et one afternoon to refill the bunkers. Outside the bar the sea was heavy and few boats had tried to make the harbor.

Besides some lighterage work there had been little to do, and Phoebe was feeling blue. If such weather kept up for a few days longer, the Phoebe would have its first loosing week, and the crew felt as badly as she did at the prospect.

As the coal rattled down into the bunkers, a little knot approached the boat, the central figure a fussy old gentleman in very evident distress. Bill Jenkins, the Phoebe's mate, was superintending the job, and to him the fussy little man propounded the question as to whether he wanted a job.

"Ask the skipper," said Jenkins, nonchalantly, with a nod of his head toward the pilot house, where Phoebe sat looking out over the troubled waters.

"Where is he?" was the helpless answer. Bill grinned.

"You see that lady up in that little house?" he demanded. His questioner nodded an assent.

"That's him," said Jenkins, the smile growing wider. "He's a she and the best skipper on the river."

"But a dozen captains have already refused this job," expostulated his listener.

Jenkins nodded. "All the more reason for seeing her," he declared. "She'll take a job anywhere there's water."

"But this is too risky," the man said, as he started to turn away.

Bill ran after him. "There ain't nothing too risky for our little captain," he said, proudly. "Come aboard and tell us about it."

His grasp was firm on the other's arm and the old gentleman had no choice but to accompany him.

"Here's a man who thinks he's got a job too big for you," said Bill, as he thrust his captive into the pilot house.

"We are not afraid to tackle a job," she said. "What is it you want?"

"You know the lightship?" demanded the stranger. Phoebe nodded. "My wife is out there," he explained. "We live down on the point and she and my son were coming up to town on a launch. The power gave out and before he could get help they were carried out to sea on the tide and were thrown against the side of the lightship. They were taken on board, but my wife's legs are broken and there are internal injuries. One leg was ground between the ship and the launch, and the wireless operator declares that unless I can get a surgeon out, there is no hope of her living."

"Have you the surgeon?" asked Phoebe.

"He is in the office. I was told that the boats all came here to coal and this would be the best place to look for a tug. We have been here all the morning."

"Go and get him," said Phoebe, quietly. "We can make it."

For a moment the old man looked into her face, then he lifted his hat.

While he was gone to seek the physician Phoebe called for more coal and made certain that there was a supply of water in the tanks. Then she went back to the pilot house, and when the two men were on board the ropes were cast off, and there was a cheer as she skilfully swung the tug about and headed down the river toward the bay.

She knew that there was more than a little danger, but a woman was down there, lying near to death. She did not need to ask her crew if they would stick by her. Every man on board would have cheerfully undertaken a trip to Europe had she deemed it necessary.

Outside the bar the waves ran high and the Phoebe struggled through the angry sea, now on the crest of a wave, now slipping down a mountain of green water to fight a way up the opposite side of the watery valley.

About the lightship the waves seemed to gain in height, and Jenkins came into the pilot house to help her with the wheel, which was almost too much for the girl to handle alone.

Phoebe jockeyed with the tug to gain the lee of the lightship. A dozen times she slipped past too far away or upon the wrong side; but at last, watching her chance, she pointed the nose of the tug for the stern of the ship, bringing her alongside.

Then the tug backed the propeller until the hawsers were made fast, and the physician and the anxious husband were hoisted aboard.

The tug stood off until, at last, the physician came on deck again. Through the megaphone he called to the tug and there came another fight with wind and tide. A second time Phoebe won and for a moment the little tug lay beside the hulk of the lightship.

The physician dropped aboard, and as they slipped past and headed for the city again the other passenger came on deck and in pantomime expressed his gratitude.

"He told me to get your address," said the physician, "and to tell you that he would send you a check as soon as he could get to shore."

Phoebe gave a little cry. "I had forgotten all about the money," she said. "I only thought of that poor woman out there dying for want of assistance. Do you think that she will get well?"

"Now," he answered, significantly. "It was a close call. Had we been delayed much longer the operation would have been useless."

It was three days later that Phoebe, coming home, found a letter waiting for her, enclosing a check for $1000. Her eyes glistened as she caught sight of the figures.

"It was Mr. Humphries, the millionaire," she cried, as she dropped the slip of paper in her mother's lap.

"I suppose that now you will be ordering a new tug; the second of the fleet," suggested Mrs. Ryerson. Phoebe blushed.

"Not exactly that," she confessed. "You see we shall need some new things here before—before I am married."

"Married—to whom?" asked Mrs. Ryerson.

"This is my second fee," explained Phoebe. "As we were fighting our way to the lightship Bill came in to help me with the wheel and—and we worked so well together that—that I told him that he could be captain and I would be his first mate."—Farmer and Fruit Grower.

MISFIT SPECTACLES.

I've wondered why the spectacles
that help grandpa to read
Should make things when I wear
them look very queer indeed;
Good reason why his spectacles for
me would never do,
For, don't you see, my eyes are
brown while grandpapa's are blue.
—Selected.

None but good trees should be planted.

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The best trees for setting should have an abundance of roots, because much depends upon trees starting early and making a fair growth the first year.

The Produce Markets

Los Angeles Markets

Butter.

LOS ANGELES, April 1, 1908.

Notwithstanding immense receipts of butter during the past few days, quotations are still same as last week. During Saturday and Monday over 35 tons of butter were received in this market. The receipts will doubtless increase and storage will open for much of the product. The tone of the market is strong.

Creamery ex per roll	47½
Firsts	45
Dairy	45
Cooking	30
Eastern	50
"Butterine"	15@20

Cheese.

California Anchor	18
Northern fresh	14
Eastern singles	17
Imported Swiss	29@30
Tulare flats	15@15½
Domestic Swiss	19
Oregon	18

Eggs and Poultry.

Eggs have shaded slightly and with immense receipts market has remained fairly firm. In fact, a decline of one cent earlier in week was partly recovered Monday so that the total for week is only ½ cent below last week's quotations. Some days over a thousand cases are received.

Eggs local candled	18½@19
Eggs case count	17
Northern candled	18½
Case count	16½

Poultry remains practically as last week.

Hens per lb	15@16
Young roosters per lb	15
Fryers	22
Broilers per lb	24@25
Roasters	18
Old roosters	8
Turkeys	15
Geese	13
Ducks	15
Squabs	1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds	6
Prime steers	4½
Heifers	4
Calves per lb	5
Sheep ewes per head	4.75
Lambs per head	3.50
Wethers	5.50

Potatoes.

Just at this time potatoes are very firm and receipts are light.

Highlands	90@1.00
Early Rose	1.70@2.52
Salinas	1.25@1.50
Sweet potatoes per sack	3.25
Sweets Northern	3.00@3.25
Oregons	1.25
Idaho	1.25
White Rose	1.25
Watsonvilles	1.25
New potatoes by lb	5

Onions.

Bermudas per crate	3.00@3.25
Oregons	4.25@4.50
Minnesota	4.05@4.50
Garlic	16
Ohio	4.00@4.50
Colorado Red	4.25@4.50
Nevadas	4.25@4.50

Vegetables.

Artichoke per doz	40@60
do Jerusalem box	75
Asparagus per lb	8@9
Beets per doz	50
Bell peppers per lb	25
Beans limas per lb	10@12
Beans green	12@15
Beans Yellow	5@8
Brussels sprouts per lb	12@13
Cabbage sack	40@60
Cabbage red	1.50
Celery per doz	90
Chili peppers per doz	15
Chives per doz	1.25
Cucumbers per doz	70@2.50
Cauliflower	50@1.00
Carrots per doz	30
Egg plant each	30
Green onions doz bunches	20@30
Hubbard squash per lb	1@1½
Lettuce per crate	1.00@1.25
Mushrooms per basket	1.75
Peas sugar per lb	2@4
Parsley	30
Parsnips	35@40
Rhubarb per box	1.50
Radishes per doz	15@20
Salsify	40@50
Spinach per doz	15@20
Turnips doz bunches	40
Tomatoes per box	1.25@2.00

Citrus Fruits.

Navels fy	1.60@1.75
Navels ch	1.25@1.50
Tangerines	1.50
Culls	40
Grapefruit seedless	2.50@3.00
Grapefruit seedlings	1.75@2.00
Lemons fancy	1.25@1.50
Lemons choice	1.00@1.25

Fresh Fruits.

Bellefleurs	2.00@2.25
Baldwins	1.50@1.75
Pippins 4-tier	1.50@1.75
W W Pearmains	2.00@2.30
Colorado Jonathans	3.00
Cal Ben Davis	1.75@2.00
Loquats per lb	9@10
Persimmons	5
Raspberries	25
Strawberries	8@12½
Extra fancy	15

Dried Fruits.

Apricots	18@22
Evap apples fy per lb	11@12
Figs loose	7
Peaches	11½@12
Pears	16
Nectarines	16
Prunes	3½@5½

Beans Dried.

Limas per ctl	5.00
Pink No. 1	3.00
Lady Washington	3.85@3.95
Small White	3.75@3.85
Black Eyes	4.50@5.00
Garvanzas	5.50
Lentils	10½

Nuts.

Almonds per lb	17½
Pecans polished	16@17
Peanuts Virgina	8½
Peanuts California	8½
Walnuts No 1 SS	16
Walnuts No 1 H S	14@15

Honey.

Extracted Water White	7¼@7½
Comb W W	11@15

Hay.

Price paid to producers f. o. b. Los Angeles are as follows:

Barley No. 1	12.00@14.50
Barley No. 2	9.00@11.00
Alfalfa northern per ton	12.50@13.50
Alfalfa local	15.00@16.00
Plain oat No 1	14.00@16.00
Wheat No. 1	15.00@16.00
Wheat No. 2	11.00@12.00

Grain.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl	1.85
Wheat in 100-lb. sacks	1.90
Barley	1.50
Corn Eastern sacked	1.80
White oats	1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn	1.85
Shorts	1.70
Bran	1.55
Oil cake meal	2.50
Feed meal	1.90
Rolled barley	1.55

San Francisco Markets

Butter.

SAN FRANCISCO, March 31, 1908.

Butter held its last week's quotations till Monday when it dropped 2 cents and now stands at 21, though some holders of good stock refuse to sell at less than 2½. Receipts are now heavier than at any time this season.

California extras per lb	21
California firsts	20
California seconds	19
Fresh Packing stock	18½
Fresh packing stock No 2	18

Cheese.

California young American fy	14
California flats fy	11½
Firsts	11½
Eastern fy	18
Oregon fancy	13

Eggs and Poultry.

Eggs are very firm at 18 cents, last week's quotation, and some are asking ½ cent in advance of quotations. Receipts are very heavy.

Fresh ranch eggs	18
Eggs firsts per doz	16½
Eggs second per doz	15½
Thirds	15
Hens per doz	5.00@6.50
Hens extra	7.00@8.00
Young roosters	6.50@7.50
Old roosters	4.00@4.75
Fryers per doz	6.50@7.50
Broilers per doz	4.50@6.50
Geese per pair	2.00@2.50
Ducks young	5.00@7.00
Turkeys per lb	14@16
Pigeons	1.00@1.35

Live Stock.

Steers No 1	8½@9
Do second quality	7½@8
No. 1 cows and heifers	6½@7
Hogs 80 to 200 lbs	5¾@6
Hogs 200 to 300 lbs	5¼@5½
Calves per lb	5@5½
Lambs	6½@7
Wethers No 1	5½@6
Ewes No 1	5@5½

Potatoes.

River Whites	40@85
Oregon Burbanks	85@1.10
Lompocs	1.00@1.30
Early Rose	1.25@1.35
River Reds	1.35@1.40
Salinas Burbanks	75@1.15
Sweets per ctl	3.25@3.50
New potatoes per lb	2½@3

Vegetables.

Artichokes Jerusalem per box	75
Asparagus per lb	5@9
Celery per doz	35@50
Cucumbers per doz	1.00@1.50
Chili peppers per lb	15@17½
Bell peppers per lb	10@15
Beans Limas	12@15
Egg plant per lb	10@12½
Green peas per lb	6@7
Squash per box	50@1.25
Marrowfat squash per sack	60@75
Mushrooms	75@1.25
Hubbard squash per sack	60@80
Rhubarb per box	1.50@2.00
Tomatoes local	1.25@1.75
String beans	12½
Garlic	10@15

Onions.

Onions advanced rapidly during last week, but now denote a weaker tone at the price to which they have been raised.

Oregon yellow	3.75@4.00
Eastern	3.25@3.50

Citrus Fruits.

Navels fy	2.00@2.25
Navels ch	1.75@2.00
Grapefruit seedless	2.50@3.00
Grapefruit seedlings	1.00@1.25
Lemons	1.50@2.50
Limes	6.00@6.50

Fresh Fruits.

Newtons	1.65@2.00
Spitzenberg	1.75@2.00
Pomegranates per box	1.00@2.50
Strawberries per crate	2.50
Aligator pears	1.75@2.00

Dried Fruits.

Apples (evap.)	5¾@7
Apricots per lb new	15@19
Figs white	2¼@3½
Nectarines	10@13
Plums pitted	12@15
Peaches	8@10
Pears	7½@10
Prunes 4 size bag basis	3¼@4

Beans Dried.

Limas	4.40@4.60
Pink	3.00@3.10
Small white	3.60@3.75
Large white	3.45@3.60
Lady Washington	3.45@3.50
Black Eyes	3.25@3.50
Red Kidneys	3.20@3.40
Garvanzas	4.00@4.25
Bayo	3.00@3.10
Horse beans	2.25@2.40

Hops.

Hops per lb	4½@5¾
Hops old fancy	1½@2¼

Nuts.

Nonpareil	13@13½
Ne Plus Ultra	1½@12
Walnuts No 1	13@13½
Hardshells	12@12½

Honey.

Clear white comb	16@17
Amber	12@15
Extracted	7½@8
Beeswax No. 1 per lb	26@27
Beeswax No. 2 per lb	23@25

Hay.

Choice wheat hay	15.00@16.50
Good wheat hay	14.00@15.00
Other grades same	11.00@14.00
Wheat & oat	10.00@15.00
Tame oat	10.00@14.50
Wild oat	9.00@12.50
Stock hay	7.50@@9.50
Alfalfa	9.00@13.50
Straw per bale	50@.90

Grain.

Wheat No 1	1.57½1.60
Barley No 1	1.37½@1.40
Corn large yellow	1.60@1.65
Oats white	1.52@1.57½
Oats red	1.70@1.75

Feed Stuff.

Bran per ton	30.00@31.50
Feed cornmeal per ton	33.00@35.00
Cracked corn per ton	34.00@36.00
Rolled barley per ton	28.00@30.00
Oil cake meal per ton	38.50@39.00
Cocoanut cakes per ton	27.00@28.00
Middlings	32.00@35.00

County Veterinarian Hammond, of Kings county, says the dipping of sheep in that vicinity is in full swing.

Citrus Market

LOS ANGELES, April 1,

The heavy shipments of the few weeks have finally exceede demand which continued keen weeks. Present shipments are 175 cars per day or a shrinkage cars. This will probably correct weakness. Actual shrinkage in has been about 10 cents per Quality of nearly all shipments the finest.

Lemons are yet in a bad way little prospect of early recovery.

Shipments.

Total shipments of citrus fruit date are 14,960 cars, of which 1837 lemons. Last season to same date 244 cars, of which 1285 were lemo

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NEW YORK, March 30.—Twe five navels, three lemons, three bl and one navelencia sold. Market dull on navels, excepting best st Lemons unchanged. Weather and favorable. AFTERNOON SAL Sixteen navels, one seedling. Mar steady on fancy stock. Easier lower grades.

NAVELS—

Whittier W F Whittier
Flower W F Whittier
Pyramid Strachan Ft Co
Royal Knight, R H Ft Ex
Iris D M Ft Co
Violet D M Ft Co

(ABOVE CARS ARE ICED.

Sierra Vista (American Beauty
West Highland Cleghorn Bros
Standard Cleghorn Bros
Gypsy Queen Moul & Gre
Native Son King Ft Co
Orchard Nat O Co
Standard Nat O Co
Orchard Nat O Co
Standard Nat O Co
Clover Redlands O G Assn
First American Randolph Ft Co
Criterion Penn Ft Co
Blue Flag Spence Ft Co
Robin Spence Ft Co
Cerrito L V W Brown
Swastika L V W Brown
Blue Globe Riv Ft Ex
Red Globe Riv Ft Ex
Quail O K Ft Ex
Lochinvar R H Ft Ex
Red Shield A C G Ft Ex
Green Crown A C G Ft Ex
Uncle Sam Riv Ft Ex
Homer Q C Ft Ex
Blue Globe Riv Ft Ex
Red Globe Riv Ft Ex
California Orange Riv Ft Ex
Lochinvar R H Ft Ex
Belt R H Ft Ex
Pyramid (iced) Strachan Ft Co.
Crafton Red G O Assn
Corona Queen Spence Ft Co
Mountain Lion F H Speich
Conqueror Ind Ft Co
Golden Orchard Ind Ft Co
Cress Queen Ely-Gilmore Ft Co
Golden Orchard Ind Ft Co
Mountain Lion F H Speich
Our Popular F H Speich
Golden Orchard Ind Ft Co
Golden Orchard Ind Ft Co

SEEDLINGS—

Mission Bells A B Chapman
Mission Memories A B Chapman
Old Oak Tustin Packin Co

BLOODS—boxes—

W Highland Cleghorn Bros
Mission Bells A B Chapman
Rose Red O G Assn
Conqueror Ind Ft Co
Uncle Sam Riv Ft Ex
Native Son King Ft Co
Mission Memories A B Chapman
Mariposa Cal Cit U
Red Shield A C G Ft Ex
Success F H Speich

BLOODS—halves — Whittier, Native Son, $1.10; Rose, $1.1 posa, $1.05; Royal Knight, $1.2 Globe, $1.20; Quail, $1.05; Blue Gl $1.15.

TANGERINES—Flower, $1.65; St dard, $1.20; Gypsy Queen, $1.05, sion Memories, .80; Orchard, $2.0 halia, $1.95; Bear, $1.85.

GRAPEFRUIT—Blue Seal, West Highland, $1.70.

LEMONS—W. S. Corwin, Choice, $1.95; Protection, $1.65; Bu eye, $1.40; Pride of Corona, $2.30.

SEEDS—Lucky, $1.70.

PHILADELPHIA, March 30. Four cars navels, one seedling, two mixed, three lemons sold. Weather cold Market steady; good condition fruit 3000 boxes Floridas sold. Market steady on good fruit.

NAVELS—

Cosmos S B F Ex Yerkes S
Pointer A C G Ft Ex Glendora
Rialto Girl Growers' Ft Co
Puritan S B Ft Ex Rialto

MAKE A ROAD DRAG.

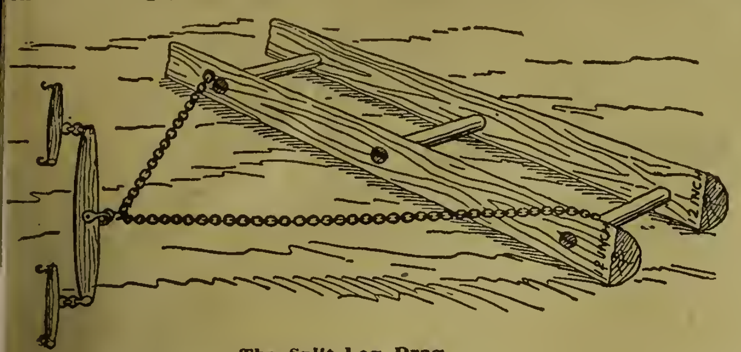
ing road drag, now most uni-
used on heavy soils, is con-
as follows: Select a log of
it wood, 12 inches thick. Cut
feet long for an ordinary team
s. Split the log in half, and
e two-inch holes through each
such a manner that the rear
en set on edge, will stand 16
to the left of the front half.
some pieces of timber of prop-
nsions, hew them down so they
the augur holes, drive them in
y and wedge the ends.

halves of the log must be set
e with the flat sides in front.
piece of old wagon tire, or,
still. a three-inch piece of sheet
hat measures four feet in
shoe the front right hand side
log. Take a log chain, insert
d through the augur hole bored
he right hand end of the log
sten with a pin through the link. The other end should go around the connecting timber at the left hand end of the front log and over its top and fasten with a pin through the link, as shown in the cut.

With a few boards sawed the proper length and cleated together, a platform is made on which the driver stands. Remember to have the two halves of the log which make the runners 30 inches apart when the drag is finished.

Walk the team slowly, change position on the platform to ensure even distribution of dirt, and use when the ground is moist.

In this connection it may be well to call attention to a late road maker known as the White City ditcher, which costs $125, and is a thoroughly good machine, easily handled. When several neighbors unite in its purchase it does not cost very much. Follow this machine with a road drag and you have a fine dirt road which will last.



The Split-Log Drag.

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var R H Ft Ex E High	2.41
ndent Growers Ft Co	2.54
DLINGS—	
ndent Growers Ft Co	2.00
de Robles	2.14
ODS—halves—	
n S B Ft Ex	1.09

GERINE HALVES—Tally-ho,
Big R, $1.27.
Y BLOODS Big R, $1.52
ONS—Circus, $2.13; Bunker Hill,
Watchumna, T C F Ex., $1.32;
S B Ft Ex., $ .32; Yacht, $1.45.

TON, March 30.—Twenty-two
sold. Twenty-three on track.
er cool. Market unchanged.

ELS—	Avg.
A H Ft Ex Arlington	2.05
ss Q C F Ex Cor	2.50
Q C F Ex Cor	2.55
e Q C F Ex Cor	2.25
Riv Ft Ex Riv	2.10
Red O G Assn	2.65
'd Nat O Co	2.80
Flower Red G O Assn	2.45
Queen Ely-Gilmore Ft Co	2.35
tion Moul & Gre	2.15
Q C F Ex Cor	2.70
Rule R F Ex Riv	2.55
ss C F Ex Cor	2.35
Bee Q C Ft Ex Cor	2.45
son Q C Ft Ex Cor	2.50
Vash. Riv Ft Ex Riv	2.45
Sam Riv Ft Ex Pach S	2.40
int O G C Assn	2.70
Red O G Assn	2.45
ndent Growers' Ft Co	2.45
ndent Growers' Ft Co	2.25
ODS—	
Sam (Ruby) Riv Ft Ex	1.35
IONS—	
irno	.90
S B Ft Ex Colt	1.65
of Corona Q C Ft Ex Cor	2.40
o S B Ft Ex Colt	1.25
a Beauty Q C Ft Ex Cor	1.80

TSBURG, March 30.—Weather
able. Market firm on good stock.
n cars sold. Fourteen on track.

VELS—	
loina Riv Ft Ex Riv	1.75
t S S Ft Ex Orange	2.20
ard S B Ft Ex Colt	2.05
ard Nat Or Co	2.50
p Ely-Gilmore Ft Co	2.40
ain Speich & Morgan	2.50
Head I L Lyon & Sons	2.60
Red O P Co	2.40
Globe Riv Ft Ex Riv	2.55
side Oranges Riv Ft Ex	1.80
rd Nat Or Co	2.75
Queen Ely-Gilmore Ft Co	2.50
ra Stewart Ft Co	1.40
Head I L Lyon & Sons	2.55
icers Red O P Co	2.50
n Flower Red G O Assn	2.60

am Separators. all sizes, all prices.
Weber Co., 555-557 S. Los Angeles
, Los Angeles.

SEEDLINGS—	
Vista de Robles	1.80
Floral S B Ft Ex Colt	1.80
GRAPEFRUIT—	
Lakeside	1.05
Tiger (seedling)	1.75
BLOODS—halves—	
Floral S B Ft Ex Colt	2.30
Tiger	2.35
BLOODS—	
Tiger (Ruby) S B Ft Ex	2.45
LEMONS—	
National E B Leach Chula V	.90
Circus	2.00
Lakeside	1.50

ST. LOUIS, March 30.—Raining. Market weak on account of the weather. Six cars sold. Nine on track.

NAVELS—	
Volunteer S A Ft Ex Pom	2.25
Lochinvar R H Ft Ex E High	2.40
Golden Rule R F Ft Ex Riv	2.45
Orchid Altland Ft Co	1.85
Buscada	1.65
Greyhound S A Ft Ex Pom	2.25
Belt R H Ft Ex E High	2.30
Golden Flower R G O Assn	2.45
Defender Altland Ft Co	1.70
SEEDLINGS—	
Vista de Robles	1.50

CINCINNATI, March 30.—Weather cool. Market steady. Eight cars sold. Two on track. Florida Brights, $2.00-@2.10; Russets, $1.80@2.20.

NAVELS—	
Greyhound S A Ft Ex Clare	2.50
Greyhound S A Ft Ex San Di	2.40
SEEDLINGS—	
Lucky Strike Hills & F	2.20
TANGERINES—boxes—	
Pet S A Ft Ex San Di	2.30
TANGERINES—halves—	
Pet S A Ft Ex	1.15
LEMONS—	
Pet S A Ft Ex San Di	2.45
Duck S A Ft Ex San Di	1.50
Greyhound S A Ft Ex San Di	2.15

A LEADING PART.

"My brother has a leading part in that new drama."

"What part?"

"He leads a horse across the stage in the last act."—Philadelphia Inquirer.

D. F. Conant of Modesto says: "I find the Cultivator has gotten into a good many homes around here, but it is no wonder for once seen is to want it reguarly."

THE UNIVERSITY AT LARGE

Continued from first Page.

ter idea of the character of agriculture as the greatest of the applied sciences.

The University Farm.

I cannot, however, forbear reference to two of the greatest contributions to the advancement of the Agricultural Department and brief comment upon their significance. A very clear indication of the attitude of the California public mind toward agricultural education is seen in the provision of $150,000 made by the legislature of 1905 for the purchase and equipment of the University Farm at Davis, in Yolo county. It is the most important single contribution which the State has ever made to the development of agricultural education. It will supplement all that has been accomplished on the scientific side by furnishing splendid opportunities for instruction in farm policy and practice which have not been adequately provided for hitherto. In the future the University students in the agricultural course will be brought face to face with the practical problems of production, and instruction therein will be given concreteness and directness. There will also be the fullest attention paid to the short courses in the various branches of farming which will enable both old and young to devote themselves for a few weeks or months to studies of the best and most profitable ways to handle plants and animals and to satisfy themselves that these advanced ways are best because they embody the latest science involved in each operation, and because the quality and market value of the product demonstrate its economic superiority. The instruction on the farm will neither duplicate the instruction or the equipment at Berkeley. At the present time the University Farm is a scene of notable constructional activity. Water supply and distribution, sewage disposal, dairy barns, seed houses, mechanical shops, etc., provided for the legislature of 1907, are all going forward at a rapid rate to supplement buildings previously constructed. A commodious dormitory and farm commons are planned for building during the coming summer. Orchard and vineyard planting for instructional purposes has been made. Equipment in live stock, machinery, apparatus is proceeding and it is planned to begin regular courses of instruction and short, special courses during the coming autumn.

The Kearney Bequest.

Another great adjunct to the University work for agriculture will be realized in this vicinity through the munificence of the late M. Theodore Kearney, providing an endowment which may have a value of something like a million dollars, for the establishment and maintenance of agricultural instruction and research in the San Joaquin valley. California by a third of a century of fitting generosity toward agriculture, culminating in the provision of the University Farm, has demonstrated the possession of a public sentiment which leads patriotic citizens to assist the State toward the more speedy attainment of that which is recognized as the most potent agency for the promotion of prosperity and success among our citizens during the coming generations. It is too soon to undertake any outline of what should be done with this new endowment when it becomes available. That will require careful consideration in connection with the informal wishes of the donor. It is sufficient at the moment to say that ample opportunity exists for its wise and effective use for the promotion of the industry to which the donor enthusiastically gave his most diligent efforts and succeeded so well. There is no present danger of too much money being available for research and instruction in agriculture in such a State as California, where the population may be multiplied ten or twenty fold without approaching density and whose capacity and variety of production is hardly yet descried. The great San Joaquin valley, where Kearney was a pioneer in undertakings which have commanded the attention of the world and in the development of products which have reversed the old courses of the world's commerce, has hardly entered upon the greatness of her future. In that future there will be the fullest scope for the wisest employment of the best agencies for agricultural education and research which his devoted gift can create and maintain.

Imperative Need at Berkeley.

But while the agricultural department is doing its best to fulfill its mission at large in the State, the total inadequacy of its housing and equipment at Berkeley must be urged upon a generous public. Every success which is scored in its work at large, places new burdens upon its work at home. The Department has taken possession of, and used as well as possible, every sort of temporary shelter which could be found, and still there is not space for its investigators, teachers and pupils. The chief agricultural building of the University cost less than ten thousand dollars and was built twelve years ago. It would hardly be considered a respectable grammar school building in a small city—Berkeley is building grammar schools which cost four times as much. In other States University buildings for agriculture are equal in dignity to those for other lines of learning, if not superior thereto. California will surely not long allow the present outfit at Berkeley to remain a reproach to her leading industry. This is a matter which the coming session of the legislature should diligently consider.

CARE OF CHICKS.

I allow the chicks to remain 36 hours in the incubator, then feed a very small portion of dry rolled bread (just what they will consume.) They are then placed in an indoor brooder, where they are comfortable and happy. I never give water until they have finished the first feed (dry rolled bread) in the brooder. I then fill a cup with water, with the chill taken off, place a saucer over the top and invert the two. This makes a very nice drinking fountain for small chicks. Place the saucer on a plate so the dampness will not get to the floor of the brooder.

I make a mixture of parched bread, cracked rice, rolled oatmeal and charcoal, fed in small quantities for a few days, and cover the floor of the brooder with clover hay, finely cut, and sand. After the chicks are ten days old I give every other day a small portion of liver or beef, cut fine, and keep charcoal where they can get it at all times. For green food I give lettuce leaves. I always feed regularly and have had splendid success with my chicks.—Commercial Poultry.

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

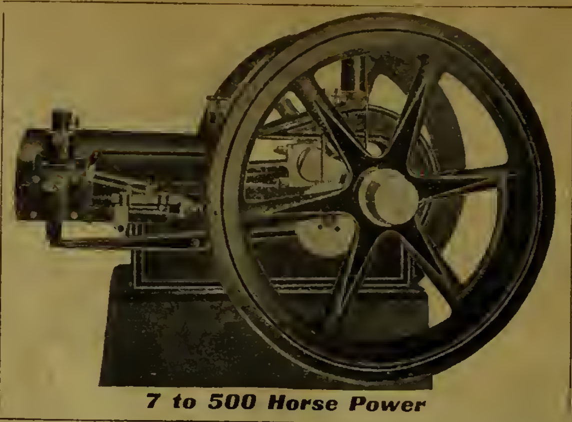
The Popular

Western

Built In the West **Best** For the West

FACTORY AT YOUR DOOR

LONGEST LIFE FEWEST PARTS
LEAST FUEL ALWAYS GOES



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Large Engines a Specialty

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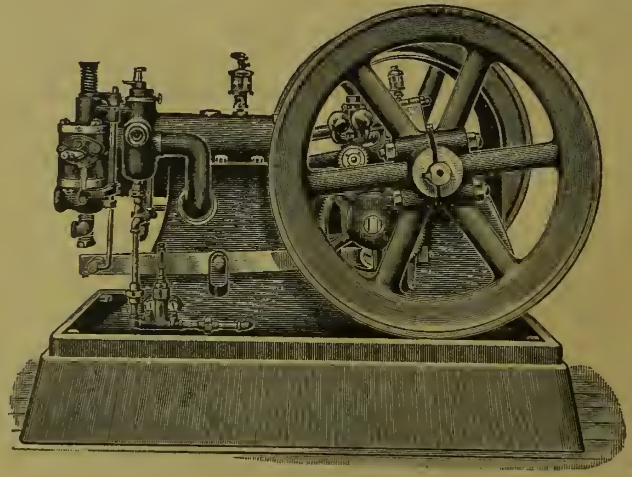

Gas Engines Like automobiles have been greatly improved in the last two or three years. When buying an engine don't buy an antiquated model. Buy an engine that embodies all the latest improvements. THE ALAMO is a modern distillate engine.

SEE OTHERS, BUT DON'T BUY UNTIL YOU'VE SEEN AN ALAMO. DROP US A CARD

Norton Engine & Power Company
201-203 No. Los Angeles St. Los Angeles, Cal.

Commercial Gas Engines

The Commercial represents all that is modern in Gas Engines. Which is not only durable and reliable, but preeminently a fuel saver. Manufactured in all sizes from 2 to 150 H. P.

Write for Bulletin No. 11.

Commercial Engine Company
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FREE THIS WEEK

How would you like to read about the mechanical points of gas engines? If interested send for our booklet "The Gas Engine and its Mechanical Features."

Federal Gas Engine Co.
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CCC Gas Engine Cylinder Oil

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Guaranteed to deliver from 100 gallons per minute upwards, depending on the diameter and capacity of well, from a depth of 50 to 300 feet below the surface. Can be either belt driven or direct connected to electric motor as occasion requires.

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Compact, durable, primed and ready to constant flow, hence in capacity of well.

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For all purposes, Stationary, Portable an ing. All sizes from 2 to 100 H. P. Si able, warranted, are giving fine satisf purchasers on the Coast. Prices and mailed on application to

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California Cultivator
Published Weekly
One Dollar a Year
s Angeles April 9, 1908 San Francisco

ashington Navel Grove with a Record

The Kind of Orchard Which is Too Seldom Seen. The Five and and Ten-Acre Owner Does Not, as a Rule, Secure the Profit Which the Large Landholder or Estate Does. Let the Small Owner Use the Same Intelligence as the Foreman of the Large Orchard

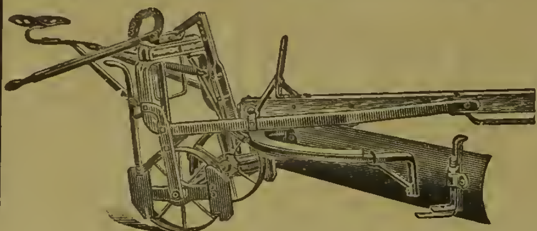
Courtesy San Dimas Nurseries, San Dimas, Cal.

IS grove comprises 10 acres, was planted in 1890, in a rich, :composed granite soil to second-size trees, and by reason of ɔod care has proven a pronounced success. In 1892, the crop ɔr $80.00; in 1893 for $635.00; in 1894 for $2780.00; in 1895 for 00; in 1896 for $4000.00; in 1897 for $5300.00; in 1898 for 00 (this was the season of heavy wind storms when the trees ıuch of their fruit); in 1899 for $5830.00; in 1900 for $6000.00;)1 for $6250.00; in 1902 for $6100.00; in the years following data is not available, but in the rough the returns averaged $6000.00 to $7000.00 annually.

:ry grove in California will not do that well. Soil, local cli- conditions, water and more than all, the personality of the owner enter into such a production. The latter factor is one which calls for serious consideration. As Mr. Reed said at Whittier, the question is serious. The ordinary orange grower does not intelligently consider all the questions before him and through his ignorance, or at least carelessness, in allowing the mistakes to lower the general tone of the orange market and, in turn, his own condition is made worse until the larger holder of orange groves, with his keen management, is year by year enlarging his holdings, while the small owner is becoming more discouraged.

When the owner of the smaller acreage awakes to his full privileges the orange industry will be more profitable and there will be more orchards like the above, which are now the exception.

Make Roads Easier with One-Man Grader



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Made of steel and Malleable iron; strong, stiff and adjustable to every need in road building, land leveling, ditch digging, railroad grading, etc. Our handsome new booklet is free and tells all about the machine with large illustrations. Send now for it and learn how to make good roads cheap. Address

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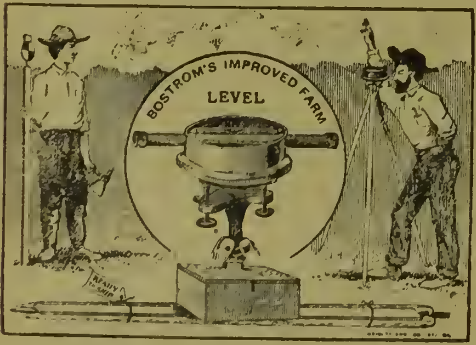

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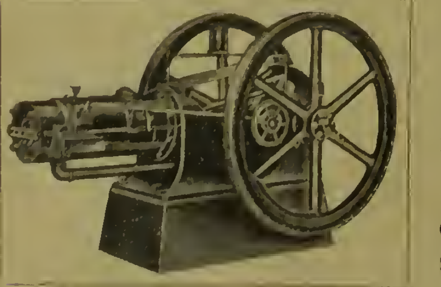

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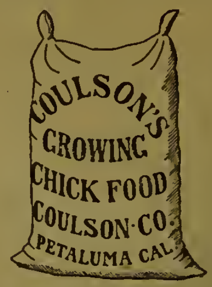
Coulson's
Growing Chick Foo



After hatching your chickens and raising them successfully u 5 or 6 weeks old, they are worth something to you, and every that dies now is a distinct loss in the cost of feed you have use well as the cost of hatching and subsequent care of them.

Therefore, in deciding what feed to use now that they are get too large for the baby chick food, you must exercise the same as before, to give them the best.

The Best Feed with the Least Labor

Is what you want and that is where

Coulson's Growing Chick Food

comes in.

Coulson's Growing Chick Food is rich in protein, owing meat and bone it contains. The grains and seeds in this food all ground up, a portion being granulated, so as to give their d organs sufficient work to insure health. The food contains a variety of ingredients, which furnish the growing chick all quires for quick, healthy development.

COULSON'S GROWING CHICK FOOD is especially adapted feeding dry in hoppers, as well as dampening as a mash.

THE HOPPER STYLE OF FEEDING HAS NUMEROUS VANTAGES:

COULSON'S GROWING CHICK FOOD can be placed in a ho in sufficient quantity to last for several days. If this hopper is p erly constructed there will be no waste, and the consequent savi labor in feeding is large. The chickens thrive amazingly well and are kept in the most healthy condition, as with the dry f ways with them, they have no desire to gorge, with conseque tion troubles.

Many have hesitated about trying this method of feeding b son of the cost of the hoppers required. A good hopper for dry ing can be made by any one at a very slight expense. We w pleased to furnish a simple method of making these hoppers. of charge to you.

Try the Dry Feed Method

with

Coulson's Growing Chick Food

and we are sure you will never use any other.

COULSON'S GROWING CHICK FOOD can be used for chicks 4 to 6 weeks old up to 3 months old, when COULSON'S EGG FOO IMPROVED MASH EGG FOOD should be fed them.

If your dealer does not handle COULSON'S GROWING CH FOOD, write to us and we will tell you where you can get it.

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alifornia Cultivator

XX—No. 15 Los Angeles, California, Thursday, April 9, 1908 Subscription $1 a Year

ssibilities of Walnut Blight Control

By the Use of Immune Varieties

By H. J. RAMSEY, of the Southern California Pathalogical Laboratory, Whittier

particular phase of the walnut problem,
rning which I shall try to deal more es-
lly, has already been discussed to some
this convention.
estion of walnut blight control has been
problem with nearly every grower of
or the last half score of years or more.
light has entered and does today enter
ly every consideration or phase of the
dustry. In figuring on probable returns,
ıt growing as an investment or as a
livelihood, the great big question mark
vays stands out in the foreground is that
ight. It is always a factor and perhaps
est factor in reducing the profits to be
rom a walnut orchard, and is today the
drawback to walnut growing.

)ecreases.

e of a great increase in acreage, the out-
ead of increasing, is now actually less
as three or four years ago; this decrease
e mainly to blight. However, blight alone
by any means account for all the losses
d in the past.
esent bearing acreage of walnuts in the
day is composed entirely, with but a
exceptions, of seedling trees. These
ptions, which happily there are, are the
ch have proven very conclusively the su-
of the grafted trees as compared with
ling. They also go far to prove that if
of the seedling orchard is not at an end,
as far as future plantings are concerned,
l be. In a great many instances the
hich are popularly attributed to blight
ave been materially lessened by more in-
fertilization, cultivation and irrigation.
seedling walnuts have in many cases ex-
almost all of the soil's available fer-
l are going back; due both to lack of soil
nd because of old age. The English wal-
does not seem to be able in all cases
t itself readily to changing climatic and
ditions. It is too subject to frequent
of temperature and the variable mois-
tent of the soil. While it may do well for
er of years, there come times when, be-
f peculiar climatic and soil conditions,
ling tree fails to come up to the require-

lesirability of using grafted trees up to
ent time has been recognized by but few
growers, though now they are commencing
ze more and more the advantages of the
tree as compared to the seedling. In light
past experience with all fruit trees and
e walnuts themselves, it would seem al-
eless to urge the planting of the grafted
preference to the seedling. The time
ne when a person will no more think of
out a seedling walnut orchard than he
of planting a seedling apple or orange
. The grafted trees insure one an or-
f walnuts all of one variety and not of as
arieties as there are trees in the orchard.
ıt varieties, all of them good, when mixed,
t command the price that each variety
f sold separately. Again, the grafted or-
vill bear more uniformily, both as to quantity and quality, and will also come into bearing earlier than the seedling.

Watch the Good Tree.

If one has growing in his orchard a particular tree bearing a variety of walnuts superior to all the others in his orchard, he will perpetuate that variety by grafting or budding from that particular tree. It will thus be possible for him to grow an orchard with every tree in it equal to the original tree from which he propagated. On the other hand, were he to plant the walnuts from this tree, he would find, as all have found, that instead of having an orchard of uniformly sized trees bearing a uniform quantity and quality of nuts of the same variety, he would have an orchard of the usual seedling type with each tree a different variety differing materially in season, size, quality and quantity of walnuts produced. It is largely a matter of chance as to what kind of an orchard one obtains when planting seedlings and whether or not one will obtain even a single tree equal to the parent tree.

Choice of Stock.

The grafted trees, too, allow one a choice of roots as best suited to particular soils or conditions. There is no particular reason, if one would but select intelligently and carefully his variety, why one should not have a producing orchard bearing at least one hundred pounds of walnuts to the tree instead of having but two or three such trees in the whole orchard.

It would seem then that from every standpoint the grafted tree is by far preferable, leaving out even the possibility of blight control by means of immune varieties. It has often been said that there is nothing so bad but what there is a little good mixed in with it. While walnut blight has been the cause of enormous losses to the walnut growers, it has hastened the time when the grafted walnuts will displace the seedlings. By hastening this period of transition from the unscientific seedling epoch of the past to the more stable scientific era of the future, it has been the means of putting the walnut industry on the plane with the other great horticultural industries of our State. With sorrow in their hearts, many regret the passing of the good old days when the seedling walnut was in its prime, but they will hail with great joy the new era when they more fully realize the advantage of the change and the opportunities it offers.

No Control.

Ever since the blight has become such a serious menace to the business there has been an urgent demand that a remedy be found. While the cause of the blight has been quite fully worked out, no satisfactory method of control, at least by the use of chemicals, has yet been found. The great and popular demand has been for some simple and effective means of blight control, either by the application of some chemical to the soil, or of some spray on the trees, or even by the injection of some antiseptic into the sap of the tree itself. With the idea of finding some way of controlling the blight by means of a spray of some sort, the life history of the germ causing the blight has been fully worked out with the hope of finding some stage in its life history when it could be most easily reached by some spray material. A number of different sprays have been tried out very thoroughly and carefully at different times during the season, but none were found to be effective in controlling the blight. Though the twigs were absolutely covered with the spray, the typical blight lesions would appear on the branches the same they did on the unsprayed ones. As far as the amount of blight was concerened the trees were sprayed or not and at whether the trees were sprayed or not and at the time of the year when the spray was applied. Owing to the great size of the trees the consequent cost of application and the difficulty in getting the tree thoroughly covered with the spray, the saving of walnuts would have to be considerable to make it a paying operation.

A Fake.

The idea of inoculating the tree with some antiseptic by boring holes into the trunk of the tree and injecting into the tree certain chemicals has been exploited, chiefly for private gain, by certain unscrupulous persons, both in walnut blight and pear blight. Even if it were possible in this way to make a tree immune to blight, the experience of those who have tried it does not extend much hope in this direction. It is hard for the popular mind to conceive of the fact that chemicals thus injected into the trunk of the tree would not exercise the same influence on the tree similar to what it would in the human system. Injected into the trunk the materials, whatever they may be, will be taken upward with the sap, carried to the leaves, where the elements that can be used by the plant as food are transformed into an organic form, while the others are left as waste products and may be very injurious to the plants. All the experimenting which has been done in the scientific way as regards the control of any fungous or bacterial disease by this means does not record a single instance where it has been a success.

Possibly a Little Hope Here.

As regards the application of chemicals to the soil in the hope of making the tree more or less immune, something has been gained in an indirect way. The possibility of making the tree immune or resistant by soil application needs careful and very extended observation and experimentation. However, we do know that judicious fertilization will greatly increase the productiveness of a walnut orchard to such a degree that in spite of the blight one can obtain remunerative returns.

There is no question but what the heavy application of stable manure, supplemented by some fertilizer, strong in nitrogen especially, followed by some leguminous cover crop in the orchard during the winter, will make any walnut orchard a better investment. In connection with this, a late fall and winter irrigation will help to hold the trees back in the spring and make them less susceptible both to blight and frost injury. This treatment will tend to make the trees heavier bearers, due to increased vigor and to the fact that they will escape in a large measure the worst period of blight infection early in the spring.

Continued on Page 423.

The Best and the Cheapest

When Arsenate of Lead came into use three years ago it was widely advertised as a spray that would kill the worms and never burn the foliage. This statement was true in many interior valleys but in our foggy coast sections there has been serious injury by burning.

We guarantee our BEAN SPRAY ARSENATE OF LEAD to contain not less than 12 per cent Arsenic Oxide so it is SURE TO KILL; and not over 50 per cent of water (instead of the customary 52 per cent to 55 per cent) which gives THE MOST FOR YOUR MONEY, and at the same time is an "ortho" or NEUTRAL LEAD and CANNOT BURN even the most delicate foliage.

Our California Agricultural Station does not furnish analysis for publication, but we are pleased to submit the following to verify our statements:

OREGON STATE EXPERIMENT STATION.
C. E. Bradley,
Assistant Chemist
Corvallis, Oregon, 3-21-08.
The Bean Spray Pump Co.,
San Jose, California.
Gentlemen:

I herewith submit analysis of the sample of your lead arsenate which Professor Cordley received from you some days since:

Moisture	42.17	per cent
Total lead oxide (PbO)	42.04	"
Total arsenic oxide (As205)	12.83	"
Soluble arsenic oxide	0:17	"
Soluble impurities	.96	"
Insoluble impurities	2.00	"
	100.17	

Your guarantee of not less than 12.00 per cent arsenic oxide and not over 50 per cent water is thus substanti ated by our analysis.

Our results also show this to be a neutral or ortho arsenate.

Very truly yours,
C. E. Bradley.

Notwithstanding the fact that we have a better and a stronger Arsenate of Lead than ever before the PRICE IS LOWER.

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Having about six thousand Walnut trees that have to be moved on account of close of lease, I will make special prices on them for the next thirty days. These trees are two and three-year-old Santa Barbara soft shell variety, stocky and well rooted, running from four to ten feet in height. Seed selected from one of the best orchards in Orange county. A rare opportunity to get good trees at right prices.

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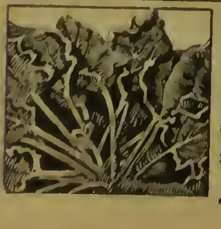

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1000 choice Navel Oranges, together with a few other Citrus Trees. April and May are best months to plant Rhubarb for heavy Crops next winter. It has never been equalled as a money maker. $1.50 per dozen, $6 per 100, $40 per 1000. Pedigreed plants.

J. B Wagner
The Berry and Rhubarb Specialist
Pasadena, California

Deciduous Fruit Cult

ORCHARDS ON HARDPAN.

THERE is a great incentive to plant deciduous orchards on almost any kind of soil that may be available. The prices of fruit the last few years from orchards that are even moderate bearers, have made men moderately rich. There is one class of land that should never be planted to fruit trees of any kind. We refer to hardpan that comes within about two feet of the surface. Trees will make a fair growth the first two or three years, but after that they have a hard time ahead of them. As soon as the roots get down where the water is held by the hardpan the trees will begin to deteriorate. It is a common idea that Bartlett pears do well on wet land, and to a certain extent this is so, but when hardpan is within three feet of the surface, we have seen it tried to a finish. Peach trees that grew to good bearing size died before they had paid for themselves. Late spring rains cause an excess of water in the soil at an unfavorable time and fermentation of the sap is a result. On adjoining land where there were six feet of good soil, the trees continued to grow and produce good crops.

There is a large area of this class of soils in California, and if handled properly will produce paying annual crops. Such soil requires very little water at any one time and if proper surface drainage is provided, large crops of wheat and Egyptian corn can be raised on it. With proper drainage, alfalfa will produce well with proper summer irrigation. Such land should be benefited by the application of acid phosphates, as most of the prosphates are locked up in combination with the lower oxide of iron. This is shown in the small globular, hard and reddish or black particles found in such soil. The phosphates in the fertilizer would supply for the present need of the grain and especially wheat, while the excess acid will dissolve a portion of the phosphates that is combined with the bases.

$20,000 REWARD.

Not as a matter of news, for it is far too old for that, we reprint the following conditions which the walnut associations made some years ago when they offered the $20,000 reward which caused much comment. The Cultivator still receives inquiries regarding this reward. So we asked Mr. J. A. Montgomery, secretary of the organization, as to conditions.

Note that the 13th condition says that if the remedy is not forthcoming the reward may be withdrawn in 1907. But while it is probably that the remedy will never be discovered, we doubt not liberal treatment will be granted to the lucky discoverer who performs the miracle.

The conditions governing this offer are as follows:

1st. Experiments may begin at any time.

2nd. Experimenters to be responsible for damages to trees and crops.

3rd. The method of treatment must be practicable and within reason as to expense.

4th. All applicants for the reward shall file a description and formula with the secretary of the executive committee at the time of beginning experiments and such papers shall
remain a secret and shall
tection against subseque
menters who might make
invention.

5th. No reward shall be
the method shall have be
fully applied for three
succession.

6th. No reward shall be
it can be shown that in tw
orchards in which the
prevalent that portion of
chards which are treated s
a gain of at least 90 per cen
portions not treated. That
the number of diseased w
the trees treated and the
treated shall show a differe
per cent in favor of the tree

7th. In making final tes
plicant or applicants for th
may give full written instru
the method and its applicat
committee of three walnut
said committee to be appo
the president of the execu
mittee, and said committe
shall make the tests as h
fied in such orchards as
lect, and without the kn
the said applicant or
the reward, and said co
report all results and evid
executive committee.

8th. Any walnut grower
be entited to use any propo
edy which is in the hand
committee of three for fin
may use such remedy by o
the same from the executive
tee and paying the cost the
all persons using such reme
report results to the executi
mittee.

9th. The executive com
not bound to make tests w
remedy which in its opin
proven of sufficient merit
it in making such tests,
end all experimenters aft
to their own satisfaction
experiments that their re
come up to the requirement
90 per cent qualification, sh
tests under the observatio
committee of one or more
appointed by the executive
tee.

10th. In case that two
methods are successful th
shall be paid to the one wh
od is the most practical, all
considered.

11th. If there are two or
equally desirable and efficien
dies furnished by as many
persons the reward shall be
divided accordingly and paid
two or more persons.

12th. Any foreign applicant
reward may file his formula
od with the secretary of th
tive committee, and have
made by said committee,
said remedy seemed meritori
the said applicant shall be
pense of all preliminary
vided that such expense shall
ceed ten per cent of the rewar
fered.

13th. If no satisfactory reme
discovered by 1907 the executive
mittee may withdraw this offer
discretion.

14th. The remedy or rem
which may be adopted shal
patentable be patented by
inventor and assigned to th
ecutive committee of the W
Growers' Association of Sout

la and shall become the ex- property of said committee.

The executive committee of nut Growers' Association shall sole judge of the merits of any claims for the reward and ; decision there shall be no ap-

EASTERN PLUMS.

were at one time growing at experiment station at Pomona, ber of varieties of eastern some of which were extra fine ing out of hand. They were into large plum trees of the Gage type on which they made omenal growth. The second r after grafting they bore so at tney required propping to breaking down.

en Drop, Wayland and Golden are excellent plums. Golden has a light magenta tinge on side. It ripens in the fall, Way- as a red skin and yellow flesh. ripens in the fall. This is the lum of the three, and when it n a week or two after ripening tree, it is as sweet as honey so has a spicy flavor. The of Golden Drop and Wayland a beautiful display when color- on the trees. They are exceed- prolific and the one with its it red fruit and the other with ear glossy yellow clusters, both g through the vivid green pe- to these varieties, make them ament as well as a useful ac- on. In the fall we have seen round beneath these trees red ellow with fruit piled several

These varieties are not kept ck by the nurserymen because is not call for them, few know- em by name and only persons the eastern States are acquaint- h them. There are one or two n Southern California who cul- these varieties and they de- that no other class of plum can npared with them.

FTING DECIDUOUS TREES.

is the time to secure scions afting peaches, apples, pears te blooming varieties of plums. should be selected so as to cut cions of three buds each. Keep in moist sand but not too wet, n a cool place.

es may be grafted from the he buds begin to swell till well om. It is better to cut off the top and graft the whole tree at ime. Grafting part of a tree ear and another part another makes a tree that will always be aped. The lower branches that out at the bases of the main should be left. They serve to up the excess flow of sap while cions are getting a start, and also serve as a protection st mechanical injuries and acci- that are always liable to hap- The branches may be cut back degrees as the tops develop, h it forces a better top growth emove them as soon as the s make a good start. In this the trunks and branches ld be whitewashed to prevent urn.

anches two inches and over that to be grafted should have from to four scions inserted equidis- In the case of the smaller the number of scions should educed to one after the first sum- growth and on the larger ches enough scions should be al- d to remain to form a good top.

The object in allowing all the scions to grow one year and then cutting them out is twofold. There is a better chance of a good start and when all are allowed to grow, a cut is soon formed from new wood over the stump. The removal of the surplus branches makes smaller wounds which heal over quickly. We have grafted and pruned large trees in this way which showed no scars at all after the second year, only a change in the appearance of the bark being noticeable.

Any method of grafting is successful when it is quickly and neatly done and the inside barks are made to match. Splitting the stump of large branches is not desirable, as it leaves cavities in the hearts of them. When the bark slips easily, the scions may be inserted under the bark in a ring around the top of the stump. This method works well on peaches. On large branches the saw graft is desirable as it leaves the stump solid and thereby gives less chance for decay. A cut is made across the corner of the stump so that it will run down on the side a couple of inches. This is trimmed out with a straight cut of the knife, forming a slot widest at the top. A scion is trimmed to fit this and is pushed down into it from above till it is snug. As soon as one stump or branch is completed it should be waxed at once. This is best done by having either liquid wax or ordinary wax kept warm enough to spread with a brush. Brush over all cut places and while still sticky spread strips of cloth over the waxed portion and wax again. This prevents the wax from cracking. All saw cuts should be waxed.

Apricot and almond trees should not be grafted in the old wood. They should be topped and the young sprouts budded as soon as they mature enough to give firm wood. The wood of these trees is so hard that a good union does not form. Apricots may be topped in July after the crop is off and the sprouts that come may be budded in September. These buds may be left dormant till the following spring when the sprouts may be cut back to the buds and the new variety will have a fine top by the end of the season.

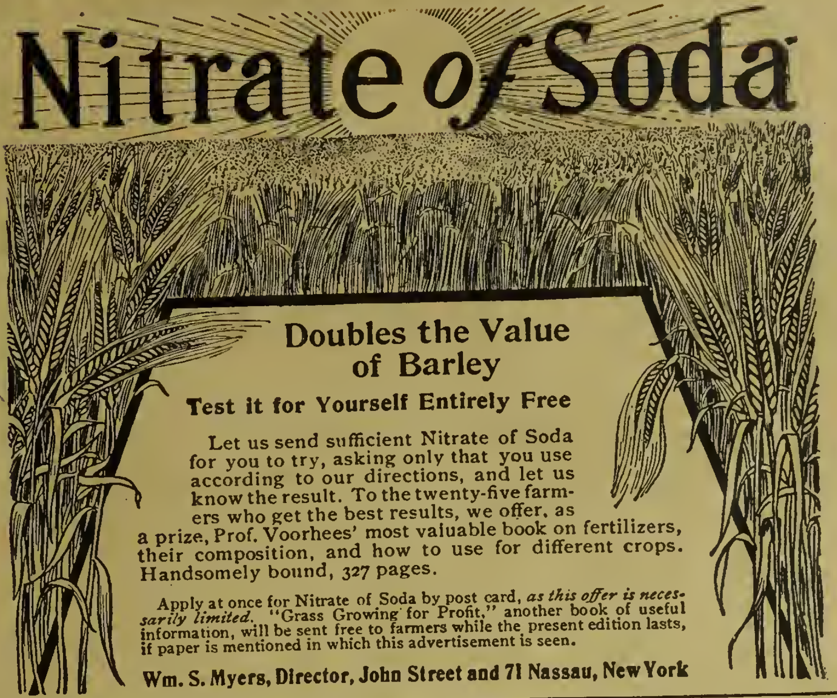
A good receipt for wax is four pounds rosin, two pounds beeswax and one pound of mutton tallow. Heat till it is thoroughly liquid and stir to mix well. By pouring it in a tub or pan of warm water and pulling it like candy after oiling the hands, it will become tough and improves in quality.

SOUR SAP OF THE APRICOT.

"Sour sap" is an altogether different disease from gumming. The latter is easily cured by simply splitting the bark with a knife. The same operation in the case of sour sap may serve to spread the disease.

When sour sap makes its appearance on a tree, it is already beyond help. The disease is as quick in its work as pear blight, and is as disastrous to the trees affected. It, however, is not so rapid in its spread, but when a tree is once affected, it will never recover. Sometimes a single tree in an orchard will wilt and die in a day and the balance of the trees will never show a sign of the trouble. Again, we have seen several trees in a body completely killed.

The disease is called sour sap because of the fact that we have no definite knowledge of what it is and from the fact that the sap seems to ferment and has a sour smell. From our present knowledge of the disease, there seems to be no method of preventing its occurrence. It is not common every year, but some seasons is quite common.



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THE WHITE FLY SCARE OVER.

HORTICULTURAL Commissioners in the different counties of the Sacramento Valley have been making a thorough search for the White fly, fearing that it might have spread from Marysville and Oroville, but reports from all sources indicate that it is as yet confined to those two points and that it is pretty well under control there. Of course, there is still danger of infection from one or the other of these points, but the pest here is so thoroughly under control that this danger has been reduced to a minimum and, with proper care, hereafter there will be little danger to be apprehended of this pest reaching the orange sections of the south.

RED SPIDER.

In a report issued some months since by B. J. Jones, field man of the San Dimas Lemon Association, he gives information regarding the red spider. As it is approaching time when that pest will again be in our midst, we quote:

Red spider was abundant throughout April and well into May and was very difficult generally to control on account of the long continued cool weather which prevented the sulphur from being effective. There was generally sufficient dew at some time during this period to stick the sulphur, though some practiced throwing water over the trees with a small spray pump previous to the application and found this very effective. From one-fourth to three-fourths pound of the dry sulphur per tree (preferably flowers of sulphur) is sufficient and should be sprinkled on in a fine mist free from lumps which are likely to burn the foliage in hot weather. A hand dust sprayer such as is used for sulphuring vines is very good for this work; it gives a finer and more even distribution of the material and will save the eyes of the operator to a large extent. A sulphur spray has been recommended which contains some sulphide of potash. This neutralizes the sulphuric acid and prevents burning. But this is no more effective in cool weather than the dry sulphur and few have spray outfits with which to apply it. The red spider is parasited by two or three species of ladybirds, the common lace wing fly, several species of spiders and one or two of coniopteryx. The last is most effective and does much good in devouring the eggs. While all these parasites are present here they are not effective on with the enormous multiplication of account of their inability to keep up the host.

ACTION OF COVER CROPS.

The Division of Soils of the Department of Agriculture has been making investigations for several years along the line of plant excreta. There is a belief that all soils contain enough plant food for many crops, and that when the soil is infertile, the probable reason is not the lack of plant food or of soluble plant food, but the presence in the soil of certain bodies, partly known, and probably others unknown, which are poisonous to the growing crop. It is also believed that the source of these poisonous bodies is the previous crop or crops, says a writer in the Country Gentleman, in discussing the question of effect of cover crops.

Plants absorb from the soil water, and with the water, dissolved in it, mineral matter. They are said to excrete matter no longer needed by the plants. A German scientist, after a long series of very expensive experiements, believes that plants excrete potash, as the ripe crop contains a great deal less of it than the same crop when sending forth vigorous shoots in the early part of its growth. The American experiments go to show that plants poison the soil by emitting something obnoxious to subsequent crops. Weeds injure crops, on this theory, not alone by taking water and plant food which ought to go to the crops, but also by manufacturing and sending out into the soil poisonous substances. Crop rotation is necessary because certain crops poison the soil for certain other crops, while their excreta are less poisonous to others.

It was shown in these same series
of experiments that these po
were destroyed, or at least thei
fects were obliterated, by m
certain green substances with th
fected soil. Leaves were effecti
one case, for instance. Green
nures are beneficial far beyond
extent indicated by their conte
plant food, simply because they
in destroying these poisonous ex
The chief value of barnyard m
or any other decaying or
matter may, after all, lie
in the organic matter than
the nitrogen, potash and
phoric acid which it con
In fact, the department has an
periment on record where
shown that the liquid extract of
manure, freed from its minera
ter, was more effective as far a
yield was concerned than the
matter in the manure.

Controlling the Army Worm

Horticultural Commissioner S. A. Pease of San Bernardino county has made an extensive study of the army worm, and has bred out many of the pests, also its natural enemies. Mr. Pease is one of those natural observers who "see" things, and we are glad to have him tell in this short article some method of control.

The season has arrived to again discuss cutworms or army worms, and I will answer a few questions that have been asked.

The cutworm is hatched from eggs laid by moths. These moths in Southern California are Agrotis saucia and Peridroma saucia; there may be others but of these two I am sure. The moths are of quite dark colored and about one and one-half inches across and may be seen in the twilight fliting over the flowers and shrubbery. Usually the moths lay their eggs in the month of March and the cutworms appear in April.

They are quite easily controlled in the orchard, but it is a much harder matter to do anything with them in the alfalfa fields as it is not possible to keep them off the alfalfa, and if you spray the grass it would not be fit to feed to stock. Banding the trees with fly paper of tree tanglefoot will save the oranges. Probably the best way to fight the pests in the hay fields would be to put out bran-arsenic bait, which is made as follows: Mix 40 pounds of bran and 20 pounds of middlings and 20 pounds of white arsenic together thoroughly and then add two gallons of cheap molasses and sufficient water to make the whole into a crumbling moist mash. This may be placed along where the cutworms get it.

Cutworms are often controlled by large, black beetles, Calosomas' and are also many of them parasitized by parasitic flies; I have known as many as 70 per cent of them to be killed in this manner.—S. A. Pease.

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ND ORCHARD PRICES OF ORANGES.

man of moderate means has
nvested in a California or-
antation. He has not had a
profit from it for some years,
ead has been assessed from
time to make up deficits in
operations. The other day he
to a fruit store in his city
some oranges, and was
40 cents a dozen for them.
returning to his office—the
ay—he found a letter from the
r of his orange plantation
that as oranges were selling
ents a box, and likely to go to
year's business would net a
ich would have to be made up
stockholders. A box holds
zen of the sort of oranges he
st paid 40 cents for. This is
relation, and is of general in-
because it illustrates the
us spread in price there is be-
the producer and consumer,
things considered, the spread
instance is relatively no high-
a for food and other products
ly. Whether railway carriage
ddlemen are most largely
sible for the spread is not
but the wrong inflicted by
read hurts both producers and
ers. and hurts badly.—Farm
and Home of Minneapolis.

PUMPING PLANTS.

ping will undoubtedly be used
reater extent in the future than
past. There has been an in-
g tendency during the past few
for its use. The unfortunate ex-
c in pumping about 15 or 20
ago and the disappointing ex-
ces due to expecting too much
umping, have prevented further
pts at using it until recently.

hin proper limits, a great deal
e expected from pumping. When
a er is within a moderate dis-
of the surface of the soil, in
iti s large enough to supply a
tream of water, and where the
ial in the soil and sand is coarse
h to furnish a sufficient stream,
at deal may be expected of it.
of the earlier failures were due
k of mechanical skill on the
f the people who tried to pump,
t they were not able to keep
engines in repair, or to make
repairs. A number, however,
continued pumping for many
and some with great success.

cost of a plant may be set
st the cost of water rights in a

The cost of pumping will be
derably more than the usual cost
sessments; hence, unless the cost
plant is less than the cost of a
right, there is usually no econ-

On the other hand, there is the
ntage that water may be had
r favorable conditions whenever
d.

e scope of pumping is generally
ed. It is best adapted to small
s. It is easy to overestimate the
unt of water that a well will fur-
We very often hear of inex-
tible wells. Some of these state-
ts are laughable, were it not that
etimes they may be misleading. I
heard people say that a well was
haustible—that it supplied enough
er for five head of horses.

hen water is taken for irrigation,
hould be remembered that the
unt required for a good many
l of cattle would not furnish
h water for irrigation, and that
n a steady draft is made on the
l the water is lowered by a noticeable amount; and unless the water is furnished as fast as it is withdrawn, the volume of water stored in the soil will be materially reduced and the capacity of the well diminished. No well has an inexhaustible supply. It should not be forgotten that the water must come from somewhere, and that it is either the rainfall or the inflow from ditches around. Where the water stands in the soil it is practically a small lake, and hence, as the water is reduced in level, the supply may be permanently lowered, and it will be unless the inflow is equal to the discharge and there is time between the periods of pumping for the level to recover.

Fortunately there are many places in the river bottoms where the gravel and sand is coarse and where the water can flow with relative ease. Under these conditions the wells may furnish one-fourth of a gallon of water per minute for each foot that the water is lowered, and for each square foot of area of the whole surface. The rapidity of the inflow would increase as the water is lowered, within certain limits, so that for every ten feet of lowering of the water table, every square foot will be apt to furnish in the neighborhood of three gallons in a minute. The lowering of the water may be expected and especially under severe pumping. If it recovers rapidly after the pumping has stopped, then there need be no particular anxiety felt about the supply up to that extent.

The effect on the permanent supply may be examined by sinking some small wells or holes, which will go down to the water surface and determine whether this pumping has any effect on the permanent supply, and how much. Before one makes a large investment it would be well to make some tests and determine what this effect is. In many places pumping plants of moderate capacity can be used with a great degree of profit, while pumps of larger capacity may be failures and prove very disappointing. Moderate lifts are thus to be considered when it is to be remembered that every additional foot of lift means an additional cost in the way of fuel.

If the cost of the plant is properly estimated, the supply to be expected is also known, and the expense of maintenance and production has not been underestimated, then a pumping plant undertaken with these conditions understood should prove very satisfactory in hundreds of places.

There have been a few cases where pumping has been for the purpose of obtaining water surreptitiously by obtaining water from a neighboring ditch or stream. Cases of this kind have not been numerous enough to have made a body of legal decisions, but in general it may be said that if the withdrawal of water by this means damages the possessions of others it can be prevented.—L. G. Carpenter, Professor of Civil and Irrigation Engineering, Colorado Agricultural College.

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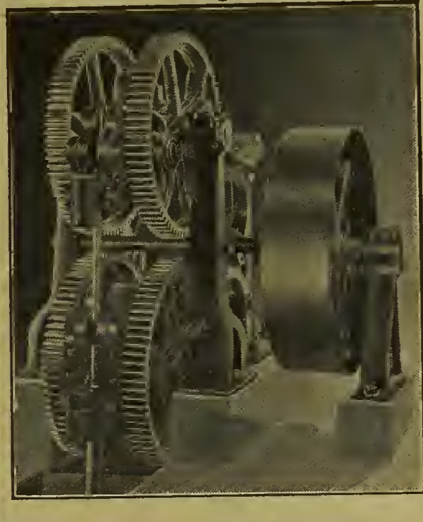

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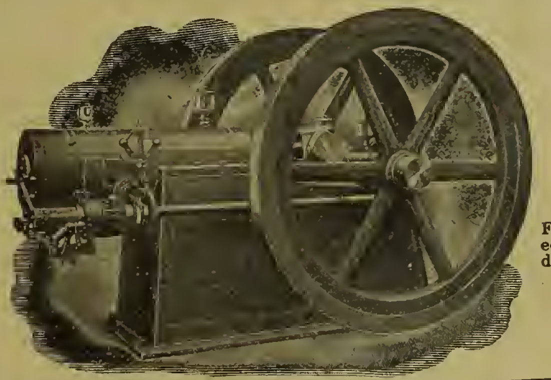

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PROPAGATION AND CHOICE OF STOCKS FOR BUDDING.

The orange cannot be trusted to come true from seed, and for fruiting purposes seedlings may be regarded as unprofitable to plant. Growth from the seed is now, however, the method almost exclusively followed for the production of stock for budding, to the exclusion of growth from cuttings or from layers, and it is by far the best.

In growing orange seedlings, good plump seed should be selected and it should never be allowed to dry. Unless it is sown at once, it should be mixed with moist sand for storing.

The best time for sowing is a the soil has become warmed in the spring.

The choice of seedling stocks for budding is a matter of primary i portance. A deep root system a broadly extending laterals, not too near the surface, are essentials to the ideal stock.

It has been said by so eminent an authority as Wickson (California Fruits, Chapter XXX, P. 356) that "the orange root is the best foundation for an orange tree, and the seed of the seedling sweet orange is the main reliance." The sweet orange, however, would appear to be a surface-growing stock which has few deeply penetrating roots. In the University of California Experiment Station trials, the sour orange stock has been found to be decidedly hardier, and in every way better than the sweet orange stock. Among its other good qualities, it is resistant to alkali.

But the pomelo is deservedly becoming the favorite stock in Southern California. Its laterals are found at a greater depth than the laterals of the sweet orange; it produces more fibrous roots than does either of the other stocks, and the tree is consequently a ravenous feeder. It has succeeded better at the Experiment Station of the University of California than has the sour stock, which seems to lack uniformity of root growth, sometimes having but few laterals, in which case the crops are small.

Pomelo seedlings are said also to have made the best growth in the nursery.

Seedlings are grown either in boxes or in the open ground; in either case a rich sandy loam, which will not bake, should be secured.

The seedlings appear in about six weeks, and with good care in weeding and in keeping sufficiently—but not excessively—moist, they will make a growth of about a foot in the first season.

Planting out in the nursery should be done so soon as the ground is thoroughly warmed in the spring, when the seedlings will be about a year old.

The distance between the rows in the nursery should be at least four feet, to allow of horse cultivation. A distance of 18 inches between the plants in the rows will permit of the roots being sacked, or otherwise protected, when the plants are to be removed to the plantation.

In taking the seedlings from the seed bed a few should be lifted at a time, and it is essential that their roots be kept shaded and moist until the ground closes on them in the nursery row.

It is important to have an even stand in the nursery, and weak plants should be rejected. The seedling trees are very susceptible of by frost, and it is wise to giv some sort of protection duri winter.

The young plants are usuall ded after being one or two y the nursery, or at two to thre from the sowing of the seed. convenient time in the wint lower shoots and thorns are re so as to leave a clear stem of six inches for the convenience budder.

The best season at which to about the time when the seed starting into vigorous growth spring. In general, it may b however, that budding on goo rus stock may be done at an of the year when the bark o stock separates easily from the This always indicates a stron of sap. The buds must be take a vigorous, healthy tree of th riety desired. Good well-m buds should only be used; from both the base and the shoots are frequently defective

Spring buds start into grow most immediately, and have benefit of the whole summer for developing and maturing w

After the bud has made a start, the top of the stock s removed at a short distan it, and suckers on the should be continually look removed. The tender shoo bud is protected by tying stub, and when the growth bud has become sufficiently to allow of its supporting its old stock is smoothly sawed and the wound covered with gr wax or paint.

Proabably, however, a better tice is to supply supporting at once, and to cut the stocks in lopping, as, when this is the buds are said to make rapid growth.

Budded trees are given one years' growth in the nursery or two years' growth on the which, added to the year in the bed, makes them three to four of age from the sowing of the before they are ready for pl out in the orchard.

To cut a bud properly is not gether a simple operation; in the whole process of budding which requires skill and pra experience, and it would be possible to give here intelligibl adequate directions for perform with assurance of success.

The above is from "The Culti of Citrus Fruits," which may for the asking by writing R. A comb, 50 Clay St., San Fr It has some good points for the able suggestions on fertilizatio ner in citrus work and some

GASOLINE ENGINES.

The gasoline engine has com looked upon as the most and useful machine on the far cause it may be used for so different purposes. There is farm equipment of course whic its special mission would be gr missed by the farmer, but the line engine can be used for a overp part of the hard work or farm if one does a little sche The other machinery is stored after its particular season is until the next year, but the e prising farmer generally manag keep the gasoline engine busy whole year round. It looks as th the time is coming when farmers plow with gasoline engines, and grain to market with them

ees and Their Care

VALUE OF OLD COMBS.

value and care of empty nbs is a subject which has n discussed, but, judging oservations in the yards of eepeekers, there is more need- be said, writes Mrs. Millie r in an exchange. About a o we visited at the home of German beekeeper, where bees' en kept constantly for a mat- orty years and over, and were ed to see any amount of old lying about in the grass in all of decay. As every one at all ted with the subject knows, od combs cannot be rendered x by ordinary methods, since x they contain is encased in t off skins of the larvae which been reared therein, which them tough and difficult to out.

Building.

e people had no wax extractor erefore, considered the combs thless, not knowing that they far greater value in the apiary ey ever had for wax. In fact, comb, if straight and unbroken, h more in the hive than when ist because it is tougher. No on account of age alone is ever ed in our apiary, for these we r our most valuable acces- to profitable beekeeping. An- nistaken idea is that bees do e old combs—that they will d when hived upon them. Ex- ce proves quite to the con- as any up to date beekeeper stify. Comb building is a nat- istinct, especially with swarms hived, and for that reason it ot be always best to hive on all of which are filled with without supplying supers in the tendency may be exercised, reason that one may not ob- om the bees all that they are e of. But as for the bees ab- ng on account of them, when d in good shape, it is, to say ast, not reasonable. A little in- ation will usually show the although newly hived colonies ometimes leave without any ap- reason.

ne instance I remember where w colonies had been hived on mbs and had absconded suc- ly, the trouble was evidently lack of ventilation. The hives the regular eight frame Langs- with a small entrance way in nd. One after another the is settled on a small bush in of a huge boulder and were there. The covers were put on ai and the hive left for the Every swarm so hived came gain and left without further . The cause was attributed to d combs, when, in fact, it was count of excessive heat and de- ventilation.

t old combs will save building s evident to all, but their value t be estimated on this basis without considering what it costs to build the new. A comb is worth for wax perhaps 25 cents a pound. But is the ercial value of wax any index cost? In a way it may be, since be made into foundation and rted into comb again, but ation costs as much again as ax it contains is worth, and eepeekers find it economical to .

Amount of Honey From Pound of Wax.

The fact is, wax is produced from honey, just as tallow or lard is from corn, and is exactly the same kind of a product. The amount of honey which must be consumed in order to produce a pound of wax is variously estimated at from seven to twenty pounds. Conditions probably exert a considerable influence, which accounts for the difference in estimates. Ordinarily it is probable that about twelve pounds are required. White extracted honey is worth from 6 to 8 cents a pound, so it can readily be seen what it costs to produce the wax. But this is not all. The time consumed is worth at the time something more. Bees that produce wax cannot work in the fields for the time, but must keep comparatively quiet. To be sure, it is the young bees, principally, that produce wax, a certain amount of which would be secreted any way during the honey flow which is the reason why new swarms, composed largely as they are of young bees in good condition, are able to build comb so rapidly, and the reason why it was said before that when hived on full combs without supers one might not be able to get the most that they were capable of, yet beyond this a great deal is required to furnish a hive. To furnish an eight frame hive with full foundations costs from 50 cents up to 70 cents, according to kind and cost, while to furnish it in the natural way would cost much more. Old combs will save at least this much, and may be used repeatedly year after year, if carefully preserved when out of use.

Combs upon which bees have died may, of course, be unfit to use again, especially until disinfected. Ordinarily, however, we use them without hesitation, for we have no serious bee diseases to fear. If liable to be infested with wax worms we disinfect with sulphur fumes.

THE BUSY BEE.

Experience has shown that where farming can be profitably carried on bees can be a profit to their owners.

If a man keeping twenty-five colonies, more for their work as pollenizers, will multiply them to fifty colonies and give them the attention they require, he will be surprised at the large return they will give.

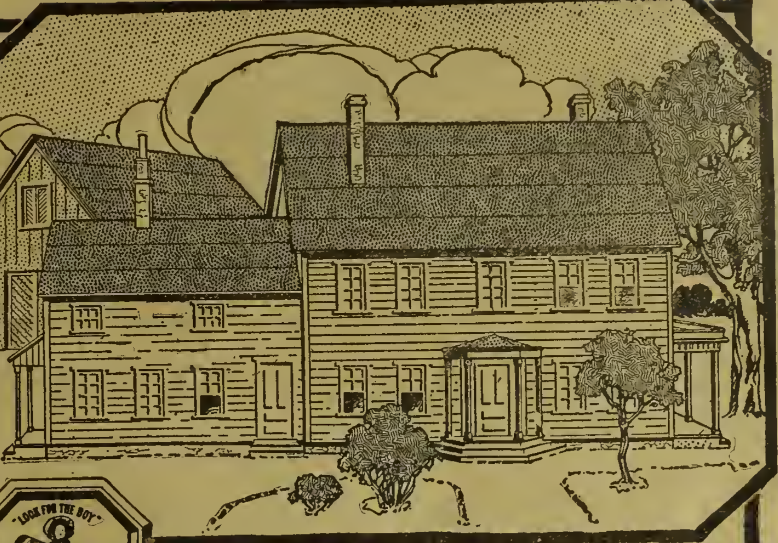
It is attention to little details that makes the difference between the successful beekeeper and the man who fails.

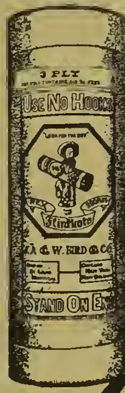
We have learned the secret of controlling swarming without having to de-queen our colonies with the consequent loss of brood; we have thought that only one queen could be present in a colony at a time, but recent experiments show that two or more can be kept in a colony at a time.

What is true of the big beekeeper is also true of the man who keeps but a few colonies, and a little better care, hitched to modern appliances, will increase the income to a very appreciable degree.—Farm Journal.

Germany is said to produce about one-fourth of the total honey crop of Europe. Her annual production is estimated at 20,000 tons.

If nearly every family owned its own home this country would never fall a prey to the anarchist, the revolutionist or the mere capitalist.





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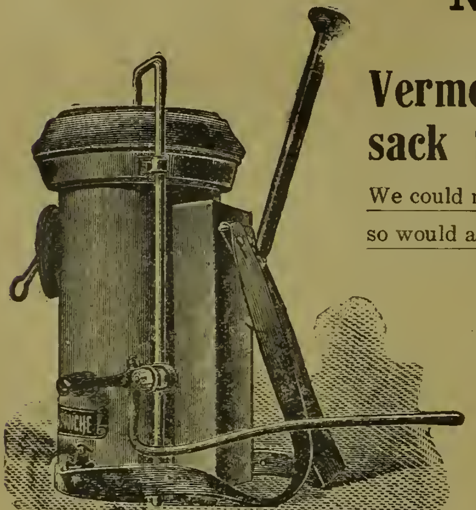

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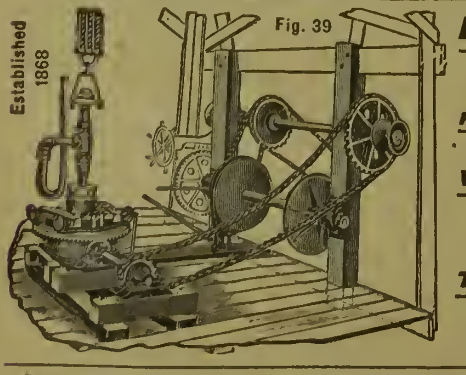

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The Vegetable Gard

FERTILIZING STRAWBERRIES.

As is well known, the principal elements of fertility with which the strawberry grower is concerned are nitrogen, phosphorus and potassium, writes W. L. Howard, of the University of Missouri, in the Prairie Farmer. These elements exist in greater or less degree in all soils, but some sections are richer in potassium than others. Nitrogen is necessary in strawberry soils in order to produce thrifty plant growth, while phosphorus and potassiums are essential to the production of fruit.

It should be rememberd that while chemical analysis show the amounts of fertilizing elements in the soil the strawberry plants are unable to use all of it. In the first place, all the fertility in the soil is not available at one time, but becomes so gradusually through the processes of weathering, and the amounts thus set free are relatively proportionate to the amounts present.

When we apply fertilizer in the form of barnyard manures, however, we supply the elements in forms that are immediately available. This is also true of many of the mineral fertilizers.

By actual analysis, it is found that one ton of fresh manure from horse stalls contains, on the average, about 9.8 pounds of nitrogen, 3.1 pounds of phosphorus and 14.9 pounds of potassium. It would seem, then, if our figures are to be trusted, that this material, while not supplying a balanced ration for strawberries, does contain enough nitrogen and phosphoric for their needs, if applied in sufficient quantity. Barnyard manures are usually thought of as being particularlly rich in nitrogen.

This is true, but as has been shown, they contain considerable quantities of the other two elements, potassium, in fact, being more abundant than the nitrogen. While the potassium content in manure is very high, it is, nevertheless, insufficient to mature a good crop of strawberries in most soils, and, therefore, it must be supplied from some other source.

To get the best returns from strawberries the land should be made rich before they are planted. This is accomplished in one way, by beginning a year or two in advance and growing a crop or two of cowpeas and turning them under.

The phosphorus is placed far above the needs of strawberries, as shown by the analysis, because this fertilizer is likely to take insoluble form in the soil. The ammonia is placed low as top dressings are made in the spring.

In applying the fertilizers, plow barnyard manures and cowpeas under in the fall so that they will be well rotted by spring.

When rock phosphate (supplying potassium) is used, it should be broadcasted on the land in fall at the rate of 400 to 500 pounds per acre and turned under with the cowpeas or manure, as it is quite available in the presence of decaying organic matter.

The other chemical fertilizers used for strawberries are best applied in spring. They should be drilled in, if possible, just before setting the plants. Easily soluble materials like nitrate of soda or muriate of potash may be disked in wit results.

Never sow fertilizers direc the plants in warm weather they are in a green growing

If nitrogen above the needs plants is used, there will be cessive leaf growth at the of the fruiting. There is not danger of supplying too m phorus or potassium, so far as to plants or fruits is concern only what is needed will The rest is wasted.

If it is impossible to begin in advance, nitrogen may be s immediately by using sodium just before setting the pla rate of 100 to 200 pounds per

The same amounts of dri will also answer the same but it is not so readily avail is more troublesome to appl must be drilled in deeply s rot. It does not cost as mu sodium nitrate. Sulphate monia and cotton seed m supply nitrogen.

Phosphorus may be su using steamed bone meal at of 200 pounds per acre, dril will cost about $28 per phosphate at the rate of pounds per acre, sown b plowed under with manure peas in fall, as stated, woul good.

Potassium is best suppl either the muriate or sulp potash at the rate of 50 to 75 per acre, applied in spring j fore setting the plants. It about $52 per ton. Kainit—300 pounds per acre—would the same purpose, but it is no sirable.

Ordinary wood ashes may used like the other fertilize in the spring before planting about the plants. As much 50 bushels per acre may applied at one time.

A POTATO SPECIAL IN COLO

The potato special train by the Denver & Rio Grande under the auspices of the Agricultural College is mak tory and is daily adding to ularity of the great science management not only encour lends most valuable aid in to the farmers along their lin orado the men of science and who have made a success of growing. The feature of work, which is conducted H. M. Cottrell and his asso meeting with the enthusiastic dial approval of the farmers. travel miles to greet these workers for Colorado's welfar best possible demonstration work is being well done is s the results produced. Th are not only receiving instru seed selection, cultivation, m etc., but by means of modern ery carried along for the practical demonstrations are and methods explained by spe who have devoted the best pa their lives to the study. Some most successful farmers in the are giving freely of their tim experience to the growers of the ern slope who are anxious to by the work offered by the Co

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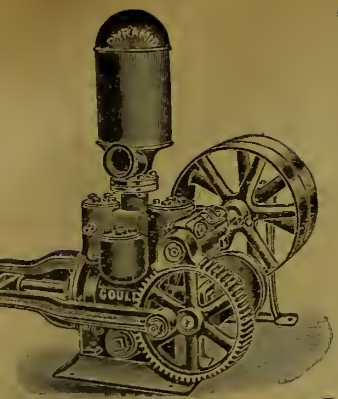

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THE AMATEUR GARDENER.

Doris wants a garden, now that spring
is almost here,
And she will doubtless get it—for
Doris is a dear—
A little bed, six feet by eight, with
roses and sweet peas,
She says she's sure that I can work
a plot like that with ease;
And I agree, because I find
To argue doesn't change her mind.

With pad and pencil she has planned
the little garden out,
Just where the mignonette will go
and where the pansies sprout;
What sort of border we must have,
and that geraniums
Will hold their bloom until it's time
to pick chrysanthemums.
It's fun for Doris. . . As for me
I've naught to do but just agree.

O'er catalogs we pore each night, se-
lecting what we feel
Will grow the best—and what the
neighbor's children will not
steal—
And every morning out we go into
the old back yard
To choose a spot where digging soil
won't be so awful hard;
For Doris says—bless her dear heart!
She knows that I will do my part.

But there's a thought that worries
me through all these prepara-
tions
For raising blooms and saving them
from youthful depredations,
I'd like to ask her if I may—and yet
I do not dare—
Plant something that is good to eat
out in our garden fair.
Will she permit me one small spot
For raising onions! I fear not.

—New Jersey Constitution.

A LILY BED.

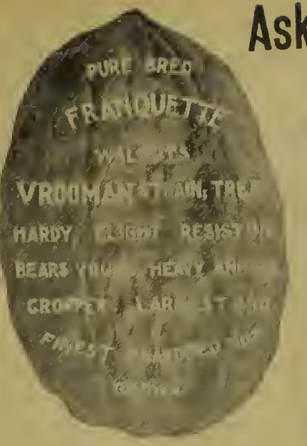
I have lilies scattered all over the place, and have just decided that the big center bed in the drive, which has been given up to red gernaiums will be just the place for certain lilies which need resetting, says a correspondent in Florida Agriculturist. The geraniums are growing too big and coarse so that they may be relegated without compunction to the rear, then the bed shall be well fertilized and spaded. It does not need any drainage, as the ground slopes somewhat, and there is never any danger anyway of too much wet in this climate even for lilies. The big clump of Agapanthus which are not doing well on the west side because the umbrella tree has grown so large in the last three years that it shades it shall have the place of honor in the center of the bed. It throws out its delicate blue umbels from the last of June through August. It is well to know the months that lilies bloom, and to keep a memory of them, so that in making a lily bed one may have a constant succession of bloom, and also one must use discrimination in the choice of colors. In August the delicate shell pink Belladonna is in bloom, and as the Agapanthus is blooming at the same time, the two colors blend exquisitely, so I shall have a row of Belladonna around the clump of Agapanthus. The White Spider lilly blooms at this time also, but as it is a lower growing lily than the Crinum's, I shall put a row of Crinums around the Belladonas. Some of the Crinums are pure white, and some are white banded pink. They begin bloming as soon as the rains begin, and bloom at intervals until July. After them shall come the White Spider lilies which bloom in August. The outside row shall be the royal red Amaryllis. The huge red bed will take all my big, fat bulbs, but what a gorgeous display they will make early in the spring for a couple of months. The border of the bed shall have the pink, yellow and White Zeyphr lilies, some of which bloom in June, others in August, the white especially. And for the very earliest of blooms, I shall have a row of crocuses for the outside border. That will finish the bed of my choicest lilies. I have an idea that I shall fill in spaces with my delicate pink and slate-colored Gladioli, which are as beautiful as any of the lilies.

No Quarrel.

But this leaves me with the gorgeous orange-colored lilies which need a place to themselves where they will not quarrel with the surroundings, and their harsh beauty will be at the best. There is a space in front of the tropical corner where they would be effective. The background is composed of the feathery green of the Papyrus, the deeper green of the Umbrella plant, the white and green of the Arundo Donax, and the striped white and green of the Eulalia, while behind them all is the glossy green of a young pepper tree. The space for a bed here is not very large, but will be sufficient I believe. The double Tiger lilies shall have the center, and there are enough of the Superbum to make a row around them. Then the three varieties of Montbretia which bloom at intervals from early spring until September, and are various shades of yellow and orange, will fill in the rest of the bed, and for a border I will put in Freesias. This corner will be a study in shades of orange and green, and will, I am sure, be a satisfactory arrangement. I have had in my mind now for several months.

This leaves all of the very choicest lilies to be considered. There is the white Funkia, and the variegated Funkia and the Speciosums and the Auratums. They all need the coolest place in the garden. Some of them have been in the lath house where they have not done very well. Some have been on the east side of the house where they have not done as well, and some have been on the north side of the house where they have done better, so that I think the cool north side of the house will be the best place I can give them, and this bed shall be prepared with good drainage and fertilizer, and the lilies put in there along with the ferns which love this cool situation. When this is all accomplished, which will take some time to do, as I do not trust the transplanting to other hands than my own, my lily beds will be in shape for another three years, and in satisfactory shape at that, I am certain. The big Calla bed on the north side of the summer house has done so well that it needs no resetting.

The basis of successful rose growing is rich soil, ordinary good garden soil, well-drained and thoroughly and deeply spaded, enriched with manure or fertilizer. The soil can hardly be too rich, but the manure must be decayed and thoroughly incorporated with it, and the plants must be set in the soil, not in the manure as it is sometimes done. Well decayed sod, prepared in advance and forming a compost, is a valuable addition to garden soil. Careful preparation of the soil months in advance of planting will amply repay the care taken.



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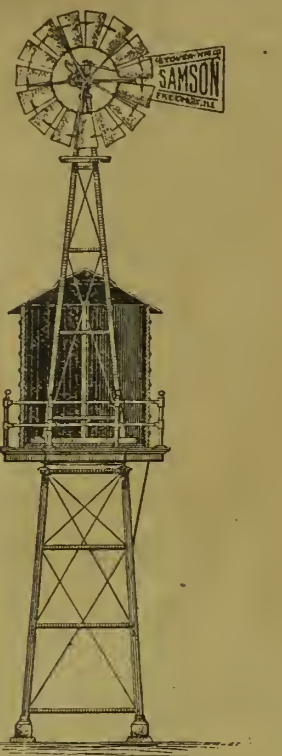

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The steps which led to the caling of this conference are particularly instructive in the way in which they emphasize the close inter-relation and inter-dependance of all the natural sources of the nation's wealth and the fact that any attempt to conserve one set will soon involve the protection of others.

President Roosevelt Says:

The President outlined the scope and purpose of the conference in his invitation to the Governors, and emphasized the importance of the subject in the following words:

"There is no other question now before the Nation of equal gravity with the question of the conservation of our natural resources; and it is the plain duty of us who, for the moment, are responsible, to take inventory of the natural resources which have been handed down to us, to forecast the needs of the future, and so handle the great sources of our prosperity as not to destroy in advance all hope of the prosperity of our descendants.

"Facts, which I cannot gainsay, force me to believe that conservation of our natural resources is the most weighty question now before the people of the United States. If this be so, the proposed conference, which is the first of its kind, will be among the most important gatherings in our history in its effect upon the welfare of all our people."

Vital Problems.

All the sessions of the conference will be held in the historic East room of the White House, where so many other important scenes in American history have been enacted; and it is likely that President Roosevelt will not only open the conference, but will preside over all its deliberations.

It will be a conference in the truest sense of the word, with the single purpose of getting down to a practical working basis at once. To that end there will be an absence of set papers, though in order to open the discussion, a few recognized authorities will present brief descriptions of existing facts and conditions. It is hoped that plans may be so formulated that there will be immediate and concerted action on the part of the different States toward the conservation of natural resources, the fundamentally vital problem, according to the President, before the people of the United States today.

FORESTRY AS AN APPLIED SCIENCE.

Many people in this country think that forestry has never been tried until the government began to practice it upon the national forests. Yet forestry is practiced by every civilized country in the world, except China and Turkey. It gets results which can be got in no other way, and which are necessary to the general welfare. Forestry is not a new thing. It was discussed two thousand years ago, and it has been studied and applied with increasing thoroughness ever since. The principles of forestry are everywhere the same. They rest on natural laws, which are at work everywhere and all the time. It is simply a question of how best to apply these laws to fit local needs and conditions. No matter how widely countries may differ in size, climate, population, industry or gove provided only they have fore of them must come to forestr time as a matter of necessity.

Backward Nations.

The more advanced and prog countries arrive first and go f in forestry, as they do in other Indeed, we might almost take f as a yardstick with which to m the height of a civilization. (one hand, the nations which forestry most widely and sys cally would be found to be the enlightened nations. On the hand, when we applied our ya to such countries as are witho estry, we could say with a goo of assurance, by this test "Here is a backward nation."

A singular exception is En which, though provided with tain and heath lands capable ducing a large part of the w home consumption, has, with indifference, been leading al in volume of wood importati depending mainly upon sources for her supplies. has hitherto been able to cou certainty upon outside aid fr near neighbors as Norway Sweden. This policy has satisfactory to the people in the examples of a more p policy afforded by rival n most at her door. The geo and economic position of th have permitted the govern the time at least, to ignore found necessary for the pu fare in other countries of th rank.

Spur of Want.

The countries of Europe and taken together, have passed all the stages of forest history, plied all the known principles estry. They are rich in forest iences. The lessons of forestry brought home to them by knocks. Their forest system built up gradually as the hardship. They did not first theories and then apply th

Continued on Page

SOURCE OF OUR WEALTH.

eries and Replies

s to be answered in this department should be received at this office
before reply is expected. Write plainly on one side of the paper and
name and address. Unsigned communications receive no attention.—

louse bas made an attack
inge trees. Will you please
remedy by which we may
ees of them?—E. M. S.,

s probably the common
is easily killed. Water un-
ure will usually knock them
ill them or kerosene emus-
led with spray pump will
ut the trouble is the pest
almost as fast as you can
. The weather will doubt-
ge so as to give you relief

it.

se several twigs so you can
what the trouble is. They
be bothered by all the new
oming up from the roots;
frail, with small leaves and
rneath side of the leaf is
with a rust-colored powder
rub off when touched. Last
ly noticed one patch like
this year it seems to have
the whole patch.
publish in the Cultivator at
iest convenience, any infor-
ou may be able to give on
ect, and also the proper way
a Loganberry vine, as I have
feet long or more.—H. Stew-

Prof. Ramsey's answer to
estion last week. The trou-
s quite prevalent this year,
in the Sacramento valley.

g Grape Roots.

Inform me how I shall trim
of my grape vines. They are
three years old. Shall I cut
with a knife or a hoe; and
p should they be cut off?
weaken a vineyard to cut the
six inches below the ground?
ovice and know nothing about
ness.—R. E. F., Geyserville.

ots of grape vines are never
in this country, after they are
ablished in the vineyard. Give
s careful cultivation and do
rb the roots, and you will get
results.

nts.

. J. Carr of Lodi sends the
hints for Cultivator readers:
bugs on pumpkins, melons,
cabbage, potatoes, and in fact
ll around remedy, use fresh
d lime and sulphur, equal
nd dust plants heavily with it.
eping chicken houses clear of
nd lice, wet roost with crude
m, also all bearings of roosts,
dry ashes on them so it will
k to the chickens' feet.
leaning harness, take a tub of
er, not too hot to bear your
it, and put in about a teacup
sene. Take harness apart, put
r so as to immerse. Leave
ft, and as you take out have
piece of gunnysack held in
strip the straps through so as
the dirt off, and if the sack
t take it off, strip over a sharp
board, and then oil well, but
wet with two-thirds of beef
one-third fish oil, and a little
lack.

on Roses.

you kindly tell me what to do
roses? Both last year's and
ar's roses have what looks like
eaf;" the leaves curl up and dry up. Also what am I to do for insects on roses?—Mrs. A. G. C.

We assume you are troubled with mildew. Scatter a handful of flowers of sulphur over and under the vines. This will not cure the leaves now affected, but if treatment is continued the new growth will be saved. As the season gets warmer this trouble will not be so bad. Strong soapsuds will kill the aphis on the new growth. Or you may use the tobacco decoction as given in the issue of March 12.

Transplanting Olives.

Can you tell me if olive trees eleven years old can be transplanted? If so, what would be the best method, and at what time of year could it be most safely accomplished? —W. E. H.

The olive is very hardy, and it is probable that by cutting the top severely, cutting nearly all off, you can reset the trees. Of course by lifting with a large ball of earth and moving with great care you may save most of the top. This requires a derrick and is expensive, too much so for a commercial orchard. They may be moved at any time for the next month or so. Cut at least two-thirds of the top and save as much root as possible. Cut off all mutilated roots, have hole plenty large and all ready, so as to leave roots out as short a time as possible, then flood as soon as planted with water. Irrigate again a couple of times at intervals of two or three weeks. It is better with old trees to set the same side to the south as the tree originally stood.

Grape Cuttings.

In a recent issue of the Cultivator J. W. Mills says that grape cuttings planted deeper than ten inches or a foot will rot at the lower ends in the clay soils of Imperial valley. He goes further on and says, when planting in vineyard form they should be 18 inches or 2 feet long. Why the difference? Will Mr. Mills or somebody explain through the Cultivator. —A Subscriber.

The article was not strictly an Imperial one. On the sandy soils of Southern California, in the San Joaquin and Sacramento valleys, an 18-inch cutting is best when planted in vineyard form. I planted a small experimental vineyard on the Alamo river in the Imperial valley where the soil is considered by the farmers as a sandy loam, and the lower ends of the cuttings rotted off. The same thing happened to the fig cuttings. These cuttings were only a foot long with the tops about an inch above the surface of the ground and they dried out below the top bud. The roots came out from the center of the cuttings that grew. A good percentage of them did not grow. The sandiest soils of the Imperial valley will hold water like a tub when irrigated too often, and it is not always possible to apply the water as it should be. For example, in the case cited the surface of the soil was dry and the tops of the cuttings were drying up when the owner was preparing to irrigate. He examined the lower ends of the cuttings and found they were in saturated soil and were beginning to rot, something I had never seen outside of that valley.—J. W. M.

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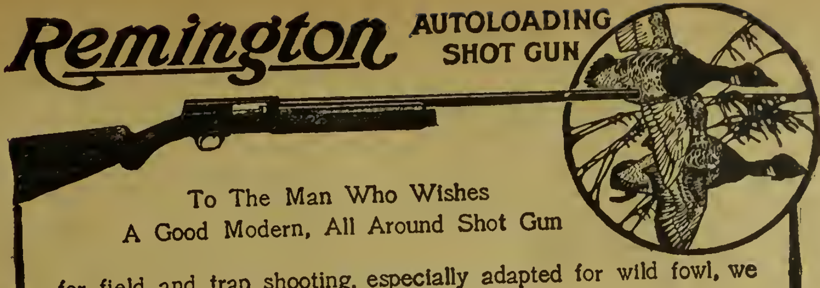

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June 3-9-10-11-15-16-22 to 28

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Return limit of all tickets will be 90 days, and in some instances four months.
Go one way and return another if you wish.

In addition to these will be excursion rates for various conventions; for instance:

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for Nat'l Baptist Anniversaries. May 13-14-15. Rate $60.00

LOUISVILLE
International Sunday School Association, June 9-10-11. Rate not yet fixed.

DENVER
Nat'l Assn. of Credit Men June 15-16. Rate $55.00

CLEVELAND
National Educational Assn. June 22-28. Rate not yet fixed.

DENVER
Nat'l Democratic Convention. June 30-July 1-2. Rate $55.00

Full particulars of these various Excursions, the train service, Sleeping Car arrangements and other details may be had from Ticket Agents of the

Salt Lake Route

T. F. Bowes, Dist. Pass. Agent
601 South Spring St. Los Angeles, Cal.

Sacramento Valley Development Association is proceeding to incorporate.

Hardpan.

I am working an orange grove, one corner of which, say 100 trees, are yellow and small top, and partly dead. The former worker says that the standpipe was not high enough to carry sufficient water to this part. I have taken out some of the worst, and found that I could cut a few little roots on one side and then take hold of the tree and pull it over—just a few surface roots. There is hardpan underneath at six to ten inches from surface which is six or eight inches thick. Did lack of water cause it? Will water and cultivation remedy it? A Reader, Rialto.

The character of your hardpan cannot be told from your description, excepting that we infer that the remainder of the orchard which had plenty of water is all right. In case the high corner has simply a "plow sole" hardpan, subsoiling with plenty of water will correct conditions and a good orchard may be made on that ground. If it is marl hardpan it is a harder proposition. A few holes dug through, noticing how it acts under treatment with water, will soon inform you how to handle the soil. The trees which are now there, if stunted, will probably never make the most productive orchard. New trees, given the best of care, will probably do far better.

CASABAS. Courtesy Johnson & Musser Seed Co.

If it is a marl hardpan, blasting out is probably your remedy.

Dust Sprayer.

Where can I get a bellows or arrangement by which I can blow sulphur on vines? M. A., Fresno.

Write Baker & Hamilton at San Francisco, Sacramento or Los Angeles or the H. C. Shaw Co., Stockton.

Figs.

Will you kindly give me information concerning the "Kadota" fig—size and quality of fruit, when same ripens and its commercial importance; also would like to know the best fig to grow for fruit-stand trade. Can I get a book descriptive of the various kinds of figs? C.R.

The Kadota is a good fig, very sweet and of fair size. It is in the Smyrna class and we are told but little afflicted with souring. The best fig for fruit-stand trade is hard to say, though the black fig, common Mission, has sold well. It bears extremely heavy and does not sour. Of course a small number of trees will supply a market so that great plantings of them should not be encouraged, except where canneries will take the surplus for marmalades. For drying, the true Smyrna is the best. "The Fig, Its History, Culture and Curing," may be had if not out of print by addressing Department of Agriculture, Washington.

Dog Bites.

Please tell me whether the owner of a dog is liable to an agent or solicitor who may be approaching the house, in the walk or drive, but on the dog-owner's property, if the dog bites or injures the solicitor.—J. Black, Los Angeles.

The owner of dog would be liable, providing the agent is orderly and in regular walk or drive to the house. While it is the property of the dog-owner, yet the public are supposed to have rights of entrance or departure from the place.

Planting Near Line.

Will you kindly inform me through your valued column "Queries and Replies," what the lawful distance is for planting eucalyptus trees off a line, between neighbors, or how far should I stay on my land with them along a line? E. L. H.

You may plant as you wish if entirely on your own land. Your neighbor may cut off the roots if they trespass. See answer to "New Beginner" in "Trees on Line."

Line Fence.

Where a land-owner builds a fence on the line between himself and his neighbor on his own expense, will the neighbor ever have a lawful right to half interest of the fence without paying for the same? A Subscriber.

Line fences are built at expense of both parties. If, however, one party leaves his land unfenced, then the other may build on the line and then later, if the other owner decides to fence his field, then "he must refund to the other a just proportion of the value of the division fence at that time." If, on the other hand, a party wishes to build a "line" fence and still retain entire possession of it, he may build entirely on his own land and then change or remove at will.

Trees on Line.

Is there any law regulating planting of gum trees along a line fence. If so, how far from the fence can anyone stop me from planting if I choose to plant 6 feet from the line? A. New-beginner.

No one can stop you from planting trees six feet or one foot from the line. However, if you plant close enough to the line so that as the trees grow the trunk stands over the line, then they are the property of both owners. But if on one side of the line, they belong to that property, even if the roots extend over the line. Of course the other property owner has the right to cut all roots which encroach on his land if he wishes.

Orange Seed-Bed.

Kindly inform me as to the best method of planting and care of young citrus seed-bed stock, when it has to be taken from the seed-bed and planted in rows in the field. What is the best time for planting and how deep should the young slips be placed in the ground. Is it necessary to fertilize? Chas. Donnelly.

Mr. Mills gave an article on this subject in answer to query in issue of Jan. 16, on page 74. In a word, plant seed soon. Transplant seed-bed stock in nursery row next year, bud the following fall or the next spring. Then plant in orchard when buds are one or two years old.

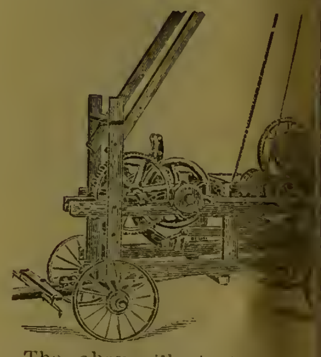
Army Worms.

How may I control the
cut worms? S., Gardena.
See article by Mr. Pease
page of this issue.

Spineless Cactus.

Tell me whether plants
the seed of this new spin
that Luther Burbank has
will be the same as the pa
Also if they not the same
the genuine plant be obtai
tings. S. G. McQuiston, F
It will not. At least, pr
a chance in a thousand of
thornless offspring. We do
where cuttings may be ha
understand Mr. Burbank
stock to a company for
What the company will sel
for we do not know. Some
that cuttings may be had
the equal of any produced
State.

HERCULES DRILLING M



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stant control of the mach
drilling. It has 28-inch
stroke; is mounted on steel
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two supports for moving.
operated also by steam
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of one-half dozen farmers
the country should have
machines to discover th
which lies beneath the
mother earth. It wil
them to discover the
sources, and in many cas
mense value to the real est
enables many men to em
time with good profit. If t
effort is made whereby
sources shall be pooled in th
of a group of workers, there
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Angeles with outline map of
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Los Angeles, is a novel a
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plan and contains a fund o
tion seldom crowded into
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railways with figures on
dicate the line to take t
part of the city.
Incidentally on the cover
valuable statements regard
curity Savings Bank, th
largest savings bank in Sou
fornia." This bank has a
surplus of $1,200,000.00. Th
located in the Security Buil
ner of Spring and Fifth stree
Angeles.
We presume this map is dist
to patrons and possibly will be
to others, if the Cultivator is
tioned.

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street, Los Angeles.

ood Dry Season Advice

y farmers are so situated that they have a piece of land "above the ditch" wish information on how to plant various crops, "Dry Farmer" will answer the Cultivator. Mr. Musser, who is the "Dry Farmer," has had experience s whereof he speaks.

CHERS are all wishing for least one inch more of rain-; while it is possible we will et it is just as possible that ill be no more rain this sea- ne barley fields look good, use of the late rains the seed getting in and consequently e yet young, and without in the barley will either die er or head out without growth. In this event there a deplorable shortage of hay dairymen will be pinched the for feed.

this dry winter, one dairyman what he shall do for feed for s. I advise him to plant Ger- llett if he has enough water to his field thoroughly before in the seed. About the first he did as I advised and grew one ton of hay to the acre and a second crop for pasture, and saved his dairy.

Next to millett I would recommend sugar cane and Kaffir corn. There are other similar crops as Egyptian corn and Pearl millett, but these grow too coarse when the seed grows to a head, but they are good when young.

SPINELESS CACTUS.

If there is any waste land on your ranch, now is the time to start a bed of spineless cactus, and in a few years you will be ready for any dry years. Cactus should be planted any time after May first; with a little water to start the roots it will at once take care of itself, and a few acres will go far toward tiding over a dry year.—Dry Farmer.

ESTRY AS AN APPLIED SCIENCE.

ontinued from Page 420.

main force. On the contrary, egan by facing disagreeable Every step of the way toward orest use, the world over, has nade at the sharp spur of want, ng or loss. As a result the of forestry is one of the most al and most directly useful of sciences. It is a serious work, aken as a measure of relief, ntinued as a safeguard against calamity.

tages.

ghly those countries which to- nanage their forests on sound oles have passed through four of forest experience. At first rests were so abundant as to be way, and so they were neither ted or destroyed. Next, as set- nts grew and the borders of the receded farther and farther he places where the wood was l and used, the question of local supply had to be faced, and the was spared or even protected. the increasing need of wood, er with better knowledge of the and its growth, led to the nition of the forest as a crop, gricultural crops, which must be ted and which should, there- be made to grow again. In this silvi-culture or the management e forest so as to encourage its nued best growth, was born. ly, as natural and industrial ess led to measures for the gen- welfare including a wiser and wasteful use of natural resources, forest was safeguarded and con- d so as to yield a constant maxi- product year after year and one generation to another. matic forestry, therefore, applied he nation for the benefit of the le and practiced increasingly by ighted private citizens, comes the last lesson in the school of st experience is mastered.—San Times.

OSSIBILITIES OF WALNUT BLIGHT CONTROL

Continued from First Page.

Will be Permanent.

et us now consider especially the sibility of blight control by the use mmune or resistant varieties. The stion of obtaining an immune or stant variety is not a vague dream of the future but is a reality of today. We actually have varieties that have, to our own knowledge, completely escaped the blight year after year. There is no reason to suppose that this character cannot be perpetuated by either grafting or budding. After carefully considering all possible methods of blight control, we arrive at the ultimate conclusion that the use of immune varieties is the only rational method of blight control. Immune varieties is a thing of permancency, while spraying is but a temporary remedy at the best, an operation that will have to be performed year after year. We would consider ourselves very much remiss should we recommend any temporary, uncertain method of blight control by spraying, when there exists not only the possibility of obtaining immune varieties, but the actual realization of that possibility. We know today of at least half a dozen trees which, for all practical purposes, are blight immune. The question then arises, why and how are these blight resistant? From all that we can gather, most of these trees are immune or escape the blight because they are late in coming out in the spring and escape the worst infection period.

There are a few exceptions where the trees come out as early as the average Santa Barbara soft shell and still are practically immune. These are trees which truly can be said to be actually immune. The fact that experience has proven that these trees are immune, because of their lateness in coming out in the spring, should not in the least detract from their value for propagating purposes. What we want is that they escape the blight.

Must Also Be Good Nuts.

While we require blight resistance, we also want trees that will produce a good quality and quantity of walnuts. It is also desirable that they mature in the fall as early as the average seedling, so that they may come into the market at a season when the demand for walnuts will bring the maximum price. Some of these immune trees not only produce from one hundred to one hundred and fifty pounds of nuts per tree, but are of a very desirable quality and coming to maturity in very good season. So while requiring blight resistance we also ask that they meen the other requirements as to season, quality and productiveness.

* * *

Go Slow.

In any consideration of walnut blight control by the use of resistant stock there are always two phases, the present and the future. The control of blight in the orchard to be planted in the future, we feel sure will be practically accomplished by the use of resistant stock. This phase of the matter lies largely with the alert, progressive and honest nurserymen, and has been fully discussed this morning. Suffice it to say that it is well to go a little slow at present, until the resistant qualities have been more thoroughly tested, and until there shall be available for commercial distribution, grafted trees from known and tested resistant stock.

The budded trees from the "Eureka" tree at Fullerton have up to date been sold largely to one or two large growers, and as they have taken all the available supply of these trees for the last three years, they have not been generally sold or distributed. There has been much talk about using French stock, especially the Franquettes and Mayette in the south, as they are more or less resistant; largely because of their lateness in coming out. The popular and general opinion seems to be that they are rather shy bearers, at least here in the south, though I am not sure that it is based on facts.

There are very few bearing Franquette and Mayette trees in Southern California; in fact, hardly any worth mentioning, nor enough to base an opinion on one way or the other.

Continued on Page 439.

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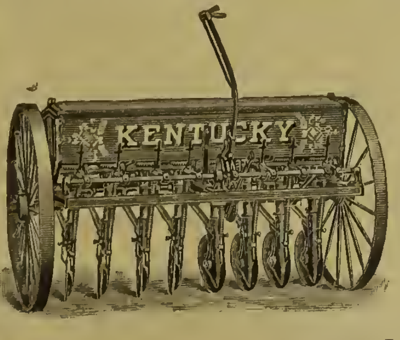

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General Agriculture

THE EUROPEAN GRAIN TRADE.

Notwithstanding the great increase in our flour exports to the Far East, the United Kingdom alone requires far larger quantities of American flour than all Asia. In the grain trade the preeminence of Europe as an outlet for our surplus production is more marked, between 80 and 90 per cent. of the total wheat and corn exports from the United States being destined to that continent, while the United Kingdom alone buys annually about one-third of our entire shipments abroad of those grains.

The European Grain Trade is the latest subject investigated by the Bureau of Statistics of the Department of Agriculture, a bulletin under that title, prepared by Frank R. Rutter, while Assistant Chief of the Division of Foreign Markets, having just appeared. This bulletin, giving comprehensive statistics of the European imports and exports of grain and flour for a long period of years, compiled from the official statistics of the various countries, supplements a recent bulletin covering the grain production of the United Kingdom and the various continental countries.

While the United Kingdom, of course, holds first rank as a market for foreign grain, the rapid increase in the requirements of Germany is perhaps the most striking feature disclosed by the trade statistics. Within the last twenty years Germany has risen from sixth to second place among the wheat-importing countries of Europe. At the present time Germany has to depend upon importation for more than one-third of its total wheat supply.

At the same time that western Europe is providing a market for our surplus grain, eastern Europe is increasing the force of its competition. Russia, while continuing to grow enough rye for its own consumption, is constanly increasing th acreage on its larger estates consequent surplus available tation in years of normal During the first five years of tury the average wheat expo Russia reached 141,000,000 showing a gain of 40,000,000 as compared with exports years earlier.

Hungary, the second large ter of wheat in Europe, ships plus almost entirely to Au that Hungarian wheat ente strictly foreign trade to a very extent, and then almost solely form of flour, the product of th garian mills being of an exceptio high grade.

Roumania ranks third among surplus-producing countries of Europe nearly one-half of its total crop being shipped abroad. There, as in Russia, the increase in wheat acreage is taking place almost entirely on the large estates, while the smaller growers content themselves with raising corn, the great mainstay of the peasants in the Danubian countries.

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25 CAR LOADS NOW BEING UNLOADED

250,000 feet of this shipment is second-hand pipe, practically as good as new, and is now on sale at a big discount by the Adams Pipe Works, 2025 Bay street. Sizes and prices: ¼ inch 1½ cents per foot; 3-8 inch, 2 cents per foot; ½ inch, 2½ cents per foot; ¾ inch 3½ cents per foot; 1 inch, 4¾ cents per foot; 1¼ inch, 6 cents per foot; 1½ inch, 7 cents per foot; 2 inch, 9¾ cents per foot; 2½ inch, 15 cents per foot; 3 inch, 18 cents per foot; 3½ inch, 20 cents per foot; 4 inch, 32 cents per foot.

Oil well casing prices and sizes: 2 inch, 7 cents per foot; 2½ inch, 9 cents per foot; 3 inch, 13½ cents per foot; 3¼ inch, 15 cents per foot; 3½ inch, 17 cents per foot; 4 inch, 18 cents per foot. All pipe is carefully inspected, new coupling and new thread are put on every piece, every joint is guaranteed to be first-class, serviceable pipe. This pipe is sold in any amount; small orders are given the same attention as large ones. Mail orders promptly filled. To reach the Adams Pipe Works, take car marked Pacific Boulevard, starting east on 7th St. from Broadway. All lines will transfer to East 7th St. new line. Ask conductor to let you off at Bay St., and go east half-block. Phones, A1917, Broadway 1263.

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ll three of the countries named rought poor wheat crops and y suspended for the present the ition that American exporters rom eastern Europe.

factor undoubtedly had much ce in driving wheat prices to a much higher than has been d since 1898, following the dis- s crop failures of 1897; and to nother year of equally high it is necessary to go back to

omparison of the grain prices ious European countries dis- some interesting points of con- Prices are lowest in Russia, wheat is primarily an export- ommodity and only in a minor an article of consumption. Lit- her prices, however, prevail in ies like England, Belgium, and etherlands, which depend on ed grain for the larger part of upplies.

ne other extreme come Germany rance; but France, this year, an exceptionally bountiful har- romises to be self-sufficing, and is the price of wheat at the ng of 1908 was 25 cents a lower than the price at Berlin. he dual monarchy of Austria- ry there is at times, when the of Hungary is insufficient to the deficiency of Austria, a level almost, if not quite, equal t in Germany, while at other when the crops are unusually he Hungarian prices exceed but hose of the United Kingdom.

LCOHOL AND GASOLINE.

comparative values of alcohol asoline for light and power, pub- by Iowa State Experiment Sta- ve note the following summary:

Investigations of which those eported form a part were under- "for the purpose of making a rison between (1) the heat value fuels, (2) their economy in the tion of light, (3) their economy production of power, and (4) lative safety of alcohol and gas- for general use.

lies of illuminating power were with three forms of gravity , a wick gasoline lamp, a pres- ver-head generator lamp, and an ry kerosene lamp. The tests wer production were made with different makes of gasoline en- having ordinary compression ires. It was found impossible to e an engine especially designed cohol, "and it was further found ically impossible to properly al- he design of any of the larger ne engines found in the labora- for the most advantageous use of ol."

results obtained are summar- as follows:

) The higher heat value of 94 ent. alcohol is but 68 to 71 per that of gasoline.

) The lower heat value (the value nearly attained in practice) of r cent. alcohol is but 66 per cent. per cent. that of gasoline.

) When used for the production ght, 94 per cent alcohol will pro- from 53 per cent. to 85 per cent. uch light as an equal volume of line.

) Alcohol of 94 per cent. purity be sold for from 11 to 17 cents allon to compete with gasoline for ing purposes at 20 cents per gal- (the present retail price of gaso- here).

"(5) Alcohol, when used in a generator lamp, will produce from two to four times as many candle power hours as kerosene in a wick lamp.

"(6) It was found impossible to soot the mantels of any of the lamps with alcohol.

"(7) Alcohol of 94 per cent purity, when used in engines designed for gasoline, has but 68 per cent to 85 per cent the value of gasoline in the production of power.

"(8) To compete with gasoline at 20 cents per gallon for use in gasoline engines, 94 per cent. alcohol must be sold for from 13 to 17 cents per gallon and 90 per cent alcohol from 11 to 15 cents per gallon.

"(9) None of the engines could be started readily with alcohol, although a few could be started with less difficulty than others.

"(10) After having once been started with gasoline and warmed up, the carburetors as designed for gasoline vaporized the alcohol successfully, except in one instance.

"(11) No doubt the gasoline carburetor can be readily changed to permit the use of alcohol as well as gasoline in the same engine.

"(12) Experimental work does not include tests of the special designed alcohol engine which should show better economy in the use of alcohol.

"(13) Gasoline cannot be used readily in a special designed alcohol engine using high compression on account of pre-ignition.

"(14) The odor of the exhaust of an engine when using alcohol is not as unpleasant as when using gasoline.

"(15) Alcohol is much more pleasant to handle.

"(16) There is much less danger from fire when using alcohol than when using gasoline, owing to the fact that alcohol does not vaporize as readily as gasoline and its flame may be extinguished with water."

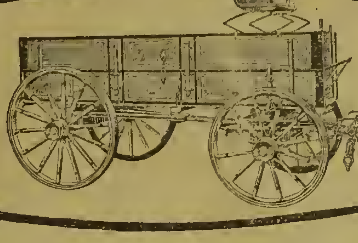
PUSSLEY.

Pussley or purslane is an annual and if it is not allowed to go to seed for a number of years or till all the seed that is dormant in the ground has germinated, it will be overcome. It never starts from the roots of last year's growth. The seeds are very vital, however. Professor Beal, of the Michigan station, states that he has known the seed to retain vitality, when buried deep in the ground, for 25 years. It is claimed by some that one plant is capable of producing as high as 1,250,000 seeds. If this is the case and it is possible for seeds to retain vitality as long as Professor Beal says they can, it is well nigh impossible to eradicate the weed, no matter if every one is prevented from going to seed during the years the ground is cultivated.

Pussley does no great injury to the corn field. In fact, the writer sometimes thinks it is a blessing. It does not make its principal growth till after the corn is ready to shoot so that it takes but little moisture needed by the corn. Its trailing habit and excessive growth affords a covering to the ground, thus preventing the loss of more moisture by evaporation than is lost through the plant. As a hog feed, when the pasture is drying up, there are few plants that will be eaten with a greater relish.—Agricultural Journal.

The 1907-08 citrus fruit crop of Florida is unofficially estimated at 2,295,072 boxes, against 3,826,018 in the season of 1906-07.

THREE HIGH CLASS FARM WAGONS



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Front and rear gears made of steel. Parts riveted together, not bolted. A wagon that is proof against breakdowns. Nothing can work loose or rattle, and there can be no warping, drying apart, shrinking or rotting.

You should remember above everything else that a cheap, poorly constructed wagon is dear at any price.

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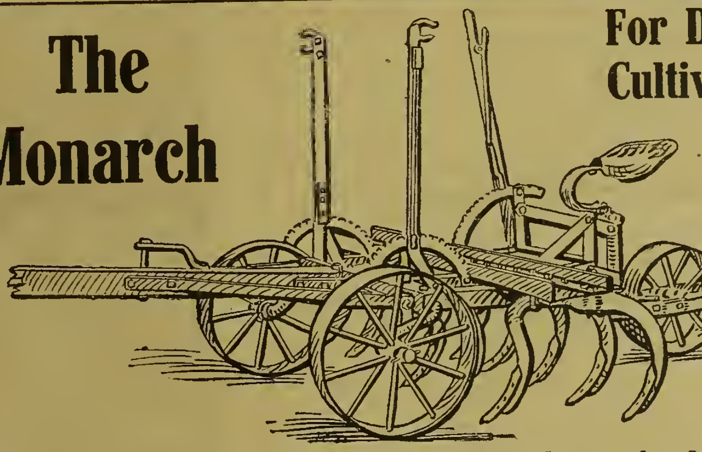

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SPECIALTIES IN FARMING.

We are in receipt of a letter from a gentleman who was present at Whittier when we spoke on experiment station work before the Farmers' Institute. He asks, "Do you think a farmer can make a success of special farming in this State?" We do. If a farmer selects a single branch of industry and follows it intelligently he can not fail to make a success. On every number of the programme at the Whittier institute, farmers who have made a success of specialties gave their methods of carrying on their work. This was true in the vegetable industry, and it was noticed that those who have succeeded best were those who have confined their efforts to some particular line. Lambert with onions, Neff with walnuts, Chase and Ramsey and others with oranges and Leffingwell and Teague with lemons.

As a general proposition it may be stated that every farmer ought to be thoroughly master of some branch of his business that he can do that work better than any other, or than any one can do it for him. What it shall be must depend on himself, his tastes and his adaptation. But when once chosen he should be master, learning everything there is to know, so far as he is able, and keeping in the forefront of improvement along the line he has undertaken to follow. He should, in fact, make it his specialty. Unless he does this he had better not undertake to farm at all, for in this age of sharp competition only the man succeeds who is able to produce better and cheaper than his neighbors. The slovenly man has no business to try farming because, when he falls into a rut and slums along, he will work hard through the year with no profit at its close.

In this development of specialties the farmer will follow the simple rule of business avocations and succeed in proportion as he understands what he is endeavoring to do. The merchant who specializes, if he is up-to-date, gets on for now days specialties in any business on the things that pay best.

We know a cattleman who went into the business of breeding high grade shorthorns. He had been for years a general farmer, plodding along and succeeding only fairly, but he turned his attention to one branch of the cattle business to the exclusion of all others, and today can draw his check for $100,000. He has made good while his neighbors have just about "held their own."

Farming as generally conducted just about earns a nice living. When some particular industry is selected and followed, with all the sources of advantage it possesses, it becomes highly remunerative. Then, too, the individual who learns the secrets of a specialty and become master of them, is able to command his own price if he prefers to work for others to working for himself. The more difficult the specialty is to master, the more secure will be the control of it by whoever has once gained a knowledge of its intricacies. This does not mean, as Sterling J. Morton once said, when he was Secretary of Agriculture, "that the farmer who masters a specialty becomes in any sense a monopolist. For whatever the farmer is able to produce the demand is world-wide, provided there be enough producing it to make a world supply."

We have all observed in California that specialties belong more to individuals than to localities, although what one man in a neighborhood has been able to do is often attempted with mediocre success by others. Still the individual who makes the greatest achievement is the one who is the closest specialist. But there is always much to be gained to a community by example, and the result of this larger production is to stimulate farmers to try to emulate, thus elevating their own standard of production with advantage to each other.

Whenever a farmer in any locality sets the example of growing some specialty and making it profitable, he at once adds to the value of the land in his neighborhood. What one farmer can do another in like circumstances can imitate, even if his imitation should fall short of the model produced by the originator. But if the originator of the industry keeps himself posted in his specialty, it will be easy for him to produce more cheaply than is possible for his competitors and at the same time to enjoy the pleasure which a sense of mastery always carries with every enterprise.

THE OMINOUS RUMBLE.

Talking the other day with one of the oldest men of the present generation, who lived a very active public life in Illinois for 60 years, about the business depression now manifest in most of the leading industrial centers, he gave as a reason the "law of reaction;" said he:

"It was not the President's big stick, nor the manipulations of Wall street financiers, nor yet the rottenness of some of the New York banks, that suddenly turned the flood-tide of prosperity into a disastrous ebb, carrying with it much wreckage. The stoppage in business and the collapse in values were not so sudden and unexpected as they appeared to the superficial observer. Those who had their ears to the ground heard the ominous rumble months ago, and were prepared for what has come." It was the natural working of the law of return, the swinging back of the poised pendulum of business over activity.

Well, our venerable friend may be right, but we do not altogether agree with him. The President's "big stick," in our opinion, caused a summary halt in the widespread open excesses of the lawless monoplies; the insurance companies, Standard oil and the rotten New York banks. Then, too, we have been living to fast. It was time a halt was ordered by some one, else the fate of Sodom and Gomorah were sure to overtake us as a nation. But, of course, the depresion might not, in its entirety, be wholly due to these causes for wiser men than o seem to see only the working of the toleral lar twenty-year cycle which brings aro panic as the aftermath of prosperity. T nous rumble, however, always precee storm We heard it a long time bef storm broke, but we didn't heed it. We expecting such a sudden and far reaching to our many years of unprecedented business activity.

If there is anything in cycle moveme of course, the present industrial depressi the anticipated, and those who were with the panics of 1837, 1857, 1873 and 189 fully prepared for what occured in 1907

Why?

The explanation is apparent if we atta significance at all to the cycle proposition. in that space of time, after every nation pression, a new generation of busine takes the place of the elders, and workin new era of prosperity, establishes new not only in business expansion, but in corporate, municipal and national extrav which continues until the expansion reac utmost limit; and then comes the inevit lapse, and we enter upon another season o omy and repentance and the practice trenchment, which lasts until a new gen of industrial and financial captains inau a new era of expansion and extravagance in part, at least, appears to be the condi the present financial depression. We can together disabuse our mind, however, thought that the President's "big stick open the rottenness of the malevolent c tions and called a halt to their iniquitou ceedings. At any rate we shall profit generation by the experience we have ha generation to come will take its medici if there is any such law governing hu fairs as the reoccurence of twenty-year in business conditions.

WHERE CO-OPERATION COUNTS.

An Illinois farmer who was ind send 50 barrels of apples to Liverpool un promise of exceptionally good profits. h ceived his return in red ink. Naturally sore. He blamed the commission ma then the transportation companies and got round to the real cause of his undoin was the foreign market.

The transportation companies, of c up the largest part of his expected prof commission men took the balance, plus s more. Here is where co-operative f might have saved a fellow grower. H Grange been situated so it could have h this fruit, the result might have been d It seems to us, as the Farm Journal "there should be a satisfactory and symp intermediary between the producer and t sumer." In some States there is this prov of safety, but not in all.

This can be said without impugning th ods or morals of the commission men who rule, are entirely reputable and few o find fortunes in handling such perishabl ucts as fruits. If the farmers of a neigh to the number of thirty or forty or more to join together and employ one of their to handle their products in the nearest town, it might be possible to secure much ter prices than are now obtained. By method all the expense, save the cost of taining the selling end of the business, wo cut out, and all above that would be retu the producer.

We have before referred to the plan wh being put in operation by farmers in States, that of building warehouses and houses and selling direct to consumers wi the intervention of middlemen. The plan lieved to be feasible.

FARMERS' INSTITUTES.

J. B. Neff, conductor of Southern Calif nia Institutes, announces institutes as follow Highlands, May 11 and 12; Rialto, May 13 an 14; San Dimas, May 15 and 16.

I was glad to read the editorial in the Culti tor calling for protection of the meadow lark writes J. B. H. this week.

gricultural Notes of the Pacific Coast

Northern California

heatland has two lambs with only head.

ne Colusa Sun appeals for more and less frost.

ainfall at Marysville aggregates ate 14.36 inches.

oroughbred sheep are being killed logs near Santa Rosa.

federal sheep inspector is looking the sheep near Galt.

ne company of Japanese have ed 200 acres near Biggs.

uit men at Chico are rejoicing romise of immense crops.

ico cannery is to be enlarged and oved for the coming season's .

vis farmers insist that the on the State Farm is progressing ageously slow.

wenty acres is to be reclaimed in tract near the junction of the ther and Bear rivers.

ans and specifications are being e for dormitory and dining room he State Farm at Davis.

ost on the last day of March did e damage in the garden sections w the city of Sacramento.

dications in Butte county are for mense crop and no damage has done this spring by frosts.

sparagus at Isleton, which was ed last year, is not growing with vigor expected this spring.

ewcastle estimates from present ications that output of fruit will more than twice that of last year.

etaluma and Cotati having joined Sonoma Poultrymen's Associa-. their success is practically as-ed

he recent reports of frost at Chico g great damage to young fruit now declared to be greatly over-wn.

endleton, Oregon, wool growers ort the new clip as of the finest, fear low prices will prevail this son

heep which are not dipped be-en March 15th and July 15th will be allowed to graze on national est reserve.

anagement of the Chico Plant In-duction Garden is pleased at the mise of a greater appreciation for coming year's work.

kunks near Yuba City have de-oyed many hives of bees until the ner of the apiary put out poison l caught 30 in one night.

On farmer of Glenn county recent-bought a quantity of wire fencing ich required five wagons and 16 ules to transport to his ranch.

Dairymen will plant quite exten-ly of matting grass which is being nt out in an experimental way in any sections of Sacramento valley.

The Anti-Debris Association at its cent meeting at Sacramento had re-rts from its committee showing at rivers in the Sacramento valley e being choked by slickens of the ining operations.

At the recent session of the Sono-a county Pomona Grange at Healds-urg, resolutions were adopted vot-g for the passage of bills authoriz-g the appointment of national high-ay commission and the establishing rural parcels post.

Central California

Exeter people are making a campaign for better roads.

Bakersfield hopes to have a Kern county fair this season.

Extensive plantings of eucalyptus are being made at Wasco.

Apple growers in the Santa Clara valley are spraying for codling moth.

Present prospects for the cherry crop in the Santa Clara valley are good.

The prospects of the Corcoran asparagus farms are said to be very promising.

The prune crop about San Jose promises to be a record breaker from present indications.

The California Fruit Canners' Association contemplates establishing a cannery at Kingsburg.

There are 13 creameries in Tulare county selling over $200,000 worth of butter and cream per month.

Palo Alto citizens are to form an Improvement Club for the purpose of beautifying and improving the roads.

Beautiful weather was given to the Santa Clara valley people at their prune blossom festivals held recently at Saratoga.

One of the most remarkable wells has been sunk at Zante Heights, which gave a good flow at a depth at 67 feet depth.

The peach moth has been discovered in the orchards of Kern county and much concern is felt on the part of the growers.

The members of the Farmers' Educational and Co-operative Union met at Selma last Friday to form the Fresno County Union.

The Pajaro valley Board of Trade is making an effort to accomplish much good for that section and urges all farmers and fruit growers to support it.

The Locust Grove Ditch Company at Exeter recently elected officers for the coming year. The president is B. F. Teague, secretary H. T. Anderson. Other directors are John Tuohy, J. S. Glenn, J. W. McCutchan.

The Central California Produce Company of Turlock which is an organization of farmers for the marketing of products of that section, is interesting a large number of Chicago houses and hopes for a favorable season.

Hatfield claims that the shortage of rain this year has been caused by his being unable to secure the proper chemicals from the East. He expects to soon receive a new supply and rains are promised as soon as it arrives.

The campaign of the Sempervirens' Club and others in the neighborhood of the Big Tree Basin Forest Reserve south of San Jose, has resulted in the declaration by the State Forestry Commission that not another redwood shall be cut within the confines of that park.

Lemon Cove orange growers are very much exercised over the fact that orange picking boxes have been brought to that section from orchards infested with White Fly. The boxes were promptly burned as soon as it was discovered, but it is feared that some of the pests may have escaped.

Southern California

Fullerton has an output of 14 cars of cabbage per week.

A new creamery has just been established at Redlands.

Cutworms have already appeared and some early vegetables have suffered.

Cantaloupes are in bloom and an early harvest is promised in Imperial valley.

It is now claimed that the Salton Sea is only two inches lower than it was one year ago.

Orange county has placed upon the market during the last four years 1000 tons of dried chilis.

Celery growers at Wintersburg held a meeting last Friday to discuss methods of spraying to control celery blight.

One nurseryman at Redlands has contracted for 300,000 Rostrata for planting in the Imperial valley this season.

The county seat contest at Imperial between El Centro and the town of Imperial, is now in the courts of Los Angeles.

Navel oranges in some of the earlier sections are beginning to drop, which will cause some little loss to the growers.

A few oranges have been forwarded which have become a little "soft," but as a rule, most fruit has been in fair condition.

From present indications the present grape crop of Imperial valley will be fully as early as last year, which was June 10th.

Celery growers recently met at Santa Ana and received information from Prof. Smith as to procedure against celery blight.

A large chili grower of Santa Ana has been investigating the chili prices and conditions of the market up the coast and finds a discouraging outlook.

The Orange County Farmers' Mutual Fire Insurance Company recently paid its first loss in two years. The company is said to be in prosperous condition.

G. Harold Powell, pomologist of the Department of Agriculture, is investigating shipping conditions in the cantaloupe industry in Imperial and Coachella valleys.

The owner of the patent for walnut bleaching compound is filing suits against La Habra Walnut Growers' Association; also the Santa Paula Commercial Company.

The quarterly meeting of the Tri-Counties' Reforestation Committee was held at Riverside on April 1st. A report was made by chairman Cuttle of his efforts at Washington.

J. G. Baum, of Olive, has developed a potato which is said to be earlier by two weeks than other varieties and an exceedingly heavy bearer, running at least 150 sacks per acre.

Redlands Citrograph says: Just as a sample of what can be done by a Redlands navel orange tree when it gets good and ready, Burges Smith took a 24-ounce orange to the board of trade rooms Wednesady. It measured 14 inches around the waist. It's not the biggest one ever grown here, but it's big enough.

The Coast

Today, April 9th, is Arbor Day in Washington.

Highest priced wheat since last fall is the condition at Palouse, Washington.

Wood buyers at Pendleton, Oregon, predict lower prices this season than last.

Orchardists at Wapato, Washington, are having great difficulty in securing labor.

McMinville, Oregon, is to have a modern milk condensary as soon as it can be built.

Oregon prunes are commanding a slightly better price than they did a few weeks ago.

The Portland Oregonian appeals to poultry raisers to raise twice as many fowls as last year.

The Yakima valley, Washington, orchards promise a bigger return this year than last year.

Fruit men at Roseburg, Oregon, recently formed a Douglas County Fruit Growers' Association.

The Northern Pacific has made a cut of 10 cents per hundred in shipping rate sacks to farmers.

Apple growers in Washington, as a rule, are preferring the arsenate of lead for control of codling moth.

Farmers at Pendleton, Oregon, are buying automobiles, one firm recently selling 10 machines, all to farmers.

One stock farm at Twin Rivers, Montana, has over a thousand young horses which are being trained by 25 trainers.

Arbor Day in Oregon is to be observed April 13th. Its observation this year will be more general than heretofore.

Prune growers at Salem, Oregon, are making an effort to put up a better pack of prunes than during the last season.

Loggers at Vancouver, British Columbia, will be allowed to export to Puget Sound the big supply of timber now cut.

A tract of several hundred acres has been purchased at Brewster, Washington, for establishing a large commercial nursery.

The Spokane Review of Spokane, Washington, appeals for a big Northwest farming congress to be held next fall at Spokane.

Children in the Albany, Oregon, schools are offered prizes for the most practical work in connection with the study of agriculture.

The campaign of dipping sheep for ticks at Pendleton, Oregon, has been so successful that many flocks are entirely rid of the troublesome pest.

A fruit growers' special train with a corps of lecturers from the State University, went through various parts of Washington and held a series of valuable institutes.

Many crops will have to be reseeded at Washtucna, Washington, because of a hot wind shooting across that section and destroying all the growth of the young crops.

The State Board of Control have fixed the price for penitentiary grain sacks at Olympia, Washington, at seven and two-tenths cents, which is a material reduction from the nine cents of last year.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

Eggs for Hatching

From Carefully selected purebred stock of

White Minorcas **White Leghorns**
Buff Orpingtons **Aylesbury Ducks**

For full particulars and prices on eggs and incubator chicks apply to

Coulson Poultry & Stock Food Co.
Petaluma, Cal.

Baby Chicks and Hatching Eggs

Thousands of Chicks of all varieties hatching every week. Buy your Chicks and Eggs here and save money. We can sell you thoroughbred eggs of any variety for less than you can get them anywhere. All eggs guaranteed. Send or phone for price list.

Pioneer Hatchery Co.
711 So. Main St., Los Angeles
Main 5651 F 1635

Black Langshans Well, we won again at Los Angeles. Two firsts, one second, one third on five birds shown. Best stock ever in show room in California. Eggs, $2.00 to $5.00 per 13, $10.00 to $20.00 per 100.

White Rocks Large and vigorous. Improve your stock with a setting or get a fine flock with an incubator lot. Eggs, $1.50 to $2.50 per 13, $8.00 to $12.00 per 100.

S. C. White Leghorns Order eggs now, we have plenty of them. Have had all winter, great big white ones. Eggs, $1.00 to $2.00 per 13, $6.00 to $10.00 per 100.

Phone East 915 **Foster's Poultry Yards, 128 W. Avenue 41, Los Angeles**

Mammoth Bronze Turkeys One and Two Year Old Hens and Early Hatched, Well Matured Toms **For Breeding**

Well Bred, Carefully Selected Cockerels Good Style, Good Size, Pure White Birds **S. C. White Leghorns** Eggs for Hatching, Any Quantity Write your wants.

No trouble to answer inquirers. Satisfaction guaranteed.

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Profit in the Poultry Ya

We solicit short articles of a practical nature from the fancier and ... **ity breeder, giving their experiences with poultry. All inquiries pertaining to ed management, disease and its prevention will be answered through these colu ns**

CLEAN UP HOUSES.

BEFORE the hot weather sets in it is well for all of us to be ready to take care of the numerous parasites that come with the hot weather. Dr. Salmon in his book "Diseases of Poultry," gives a list of over forty different kinds of lice and mites that infest our fowls. It is not necessary for us to study the characteristics and names of each of these, but it might be well for us to know how to exterminate them, or to keep them from getting start enough to make life miserable for us as well as our birds.

Prevention Best.

Be careful to keep houses clean and whitewashed—inside walls, roosts and dropping boards.

Besides, provide a good dust bath for birds and we may feel reasonably sure that we will not be bothered very much with lice. But if we let them get a good start we will have to use vigorous methods to rid houses and fowls of them.

Mites Worse Than Lice.

The most dreaded of all is the little red mite. As soon as the season is fairly started we begin to get letters asking for advise in regard to exterminating the red mite. This pest is particularly fond of dirty houses and a broken egg in the nest either during incubation or in the laying nests if left alone makes a favorite place for the mite. After they get a start they lay their eggs in cracks and crevices of houses, on under side or roosts and in nest boxes. These eggs soon hatch out and either prey upon our fowls when on roosts or our sitting hens. They will sap the vitality and profit from the entire flock. One can easily detect the mite as their eggs, which look like little white specks, can be seen on roosts and walls of house. If these specks are detected you may rest assured that you have this very interesting and annoying pest.

Treatment.

Fumes of liquid lice killer or insect powder will not kill the lice, but we can get rid of the lice and mites either with paint or by whitewash, as a good coat of either will kill them as well as the eggs. Spray the houses well with chloro-naptholeum, about one pint to four gallons of water will exterminate them, but to rid the place of them a second or even a third treatment should be given at intervals of about one week. If we will keep our houses clean and spray or whitewash, give the birds a chance to dust themselves, we will not be troubled, besides the health and vigor of the flock will be a great deal better.

AROUND THE YARDS.

Shape makes the breed—color the variety.

* * *

Don't forget to spade up the runs; it gives the birds something to do scratching for bugs.

* * *

The poultryman who will succeed must meet failure and disappointment with an unflinching determination to win.

* * *

We always give the male bird a good dusting with insect powder, as they will not dust themselve enough to keep them free fr

* * *

The habit some hens have o every day is not shared by all. hatch eggs from these every-d ers you will soon find you h drones in the flock.

* * *

Clean the nest boxes once while, even if you have no them for hatching purposes. interior with kerosene or liqu killer before rebuilding the n

* * *

In running your incubator each and every instruction giv the manufacturers to the letter. want to see you succeed and a imposing tasks they consider less.

* * *

Don't let your chickens suff want of those few simple thing lice killer, grits, chick feed, etc. if your local dealer does not ca of them in stock. Send to a supply house for their catalogu

* * *

It is a good plan to have a t or cup tacked to fence or w house to put feed in for male This may be just high enough t the hens from reaching the fee yet in reach of the male. You should have extra feed durin breeding season to get the best r

* * *

Peacocks.

Sometime since a query in th tivator asked as to where peac might be secured. It was sign V. V., but the letter which con V. V.'s name has been mislaid three answers which are rec have not been forwarded. Wil please send in his name and a

---

TURKEY TALK.

A great many write to as my turkeys run where they and select their own nests. tainly would not want to go b the old-fashioned way of r turkeys, letting them lay away the field where the crows woul all the eggs. I prefer not over hens in a flock with one tom, an they are kept in a grass yard of or three acres they will do ju t well as though they had the ran the whole farm. When turkeys kept in this way it is easy to the eggs and they can be gath two or three times a day. Then can set your hens in large boxe keep them shut on their nests, ting them out only every other for a little while, and when they back to their nests you can shut t up again. This prevents the cro getting the eggs. With me the q tion of the crows taking eggs young chickens has got to be an a important one, as I have had t take as high as fifty chicks in h lf day, and it is almost impos ible trap or kill them.

It does not require a very hig fence, if made of wire poultry net ting, to confine turkeys. A five-foo fence is sufficient, and a turkey wi not attempt to fly over a fence o this height. With a board fence i is different. The turkeys can see th top of such a fence—something t light on—and will try to fly over. A turkey looks out of its eyes very

White Leghorns

The Kind That Pays

breeding birds I each year select
er of my handsomest, earliest de-
pullets and trap nest them dur-
r entire first laying year. The
ason from these I select only
aving satisfactory laying records.
reeding pens are only hens of
worth in their second and third
and no bird that has ever shown
of disease. Each pen mated
ens to one handsome cock. I be-
ere is not in California a hand-
r better lot of birds and few as
Can furnish eggs for hatching
ese birds at $1.50 for 15, $7.50 per
60 per 1000. Let me book your
ow.
ondence solicited.

S. E. Gregg

Adams St. Riverside, Cal.

Imported

esbury Ducks

ers at Crystal Palace and
eading shows in England.
at the State Fair, San Jose
and Oakland, 1906.
State Fair and San Jose, 1907.
for sale and Eggs in season.

ncent G. Huntley

Petaluma, California

eeder of Buff and Black Orpingtons
and Barred Plymouth Rocks.

view Poultry Yards

lver Wyandottes, White Rocks
nd Indian Runner Ducks

try Breeders Show our birds won
s on 10 entries. Eggs $1.50 per
ks, $1.00 per 13. A specialty of
incubator hatching from breed-
k 2 and 3 years old; large size
t of layers. $6.00 per 100. Indian
, prize strain, $5.00 per 100.

E. Nelson, El Monte, Cal.

ldwin's White Leghorns

prizes San Jose '06, and State Fair '07
ree 1sts and special, San Jose, '07.
ts, three 2nds and $50 Cup best display
Petaluma '07.
for free '08 Catalogue and price list.

Frank E. Baldwin

hington Ave. - San Jose, Cal.

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Prolific Breeders

Winner of 1st pen at Breeders' Show
Satisfaction Guaranteed

C. E. Bunker

San Jacinto, Cal.

ullivan's Buff Orpingtons 1908

nonwealth Strain leads them all! Show
ver equalled on the Pacific Coast. Prices
e lowest, quality considered. Stock and
sale. Hundreds to select from.

Mr. and Mrs. W. S. Sullivan
Agnew, Santa Clara Co., Cal.

one Throw from Depot.

t Side Poultry Yards

Barred Rock and Buff Orphington Eggs

atched to order. We have taken the ut-
e in procuring pure stock, also selected
"Hogan System". Visitors and corres-
e solicited.

J. Look *No. 16 Hancock St. E. San Jose, Cal.*

WINSLOW'S REDS The bird for the Farmer and Fancier.

Write for 1908 Mating list.

Red Feather Poultry Yards
Dr. C. E. Winslow, **Monrovia, Cal.** Send stamp for Red Standard.

T SAN GABRIEL EGG RANCH

hite Leghorn and Barred Rock Eggs for
, $1 per 13, $5 per 100. Won 12 ribbons
Breeders Show on White Leghorns. Prize
, $2 per 13. All hens in our breeding pens
cted, 2-years-old, and are great egg pro-

son & Johnson, San Gabriel, Cal.

riel Car to Masonic Home then 2 blocks South

etaluma Hatchery

he leading varieties of chicks.
bred White Leghorns a specialty.

L. M. CLARK

ain Street, Petaluma, California

differently from any other bird or animal. If they see a crow or hawk, they turn their heads sideways and look up out of the corners of their eyes. They are a very shy bird, quick to notice danger signals. When a turkey hen scents danger she utters a short, quick note of warning and the poults flatten themselves on the ground or hide in the grass or under a bush until the danger is past. The mother hens will fight to the death in protecting her young.

Many people, when writing for turkeys, ask if there is any white or gray barring in main tail feathers at the base. Now there is a reason for everything, and as the wing of a turkey is an important factor when it comes to high scores, and to have a good wing you must have the white bars as near the same width of the dark bars as possible, and to do this you must run the white barring to the extreme limit, but not overstep it, as too much white or an extra fine barred wing will cause white or gray barring at the base of the main tail feathers, people often demand such a good wing that they are bound to get this barring in tail feathers, not knowing the cause. It can be remedied with another year's mating by using a bird with a little darker wing.

The same principle applies to the breeding of Buff Cochins. It takes a certain amount of black and white blood to get the right shade of buff, without white or black in wing or tail. I started with the best Buffs I could get, but they all had more or less white or black in wings or tail. By careful breeding I succeedded in getting a pullet with no white or black whatever in her plumage, and after several years I eliminated white and black entirely from my flock, and produced birds with a buff quill.

If not already attended to, the breeding turkeys should be mated up at once for the season's work. Birds for the breeding pens should have been secured long before this time. I have had calls for turkeys to be used as breeders after the first litter of eggs had been laid, and as moving the birds after this time retards their laying, your work for the season is badly handicapped.

When introducing strange turkeys into your flock it is a good idea to put the stranger into a yard by himself for three or four days where the other turkeys can see him through the fence. At the end of this time, turn the strange turkey out at night, after the other turkeys have gone to roost. He will go to roost with the others, and while they may have a little "spat," when morning comes they have forgotten that they are stangers and you will have no further trouble.

I have before now killed turkeys and found their crops almost filled with grass and bugs and only a very few kernels of corn, although there was plenty of corn where the turkeys could help themselves at will. This shows that they prefer grass to corn, and even during the winter months, when the ground is not covered with snow, they will feed largely on grass and will need very little other feed. I prefer wheat and shorts to corn as spring feed for turkeys. It is not fattening.—Commercial Poultry.

The slipshod worker regards his occupation a drudgery; what he wants is a brand new attitude.

Feed the Chicks and Kill the Gophers

West Coast Chick Feed

A full, rightly balanced ration for the little ones, to be fed dry. All pure feed, no filler, no waste. The biggest seller because the best made. Keeps them growing and healthy. For sale by many dealers; if not by yours send direct to us.

Bille's Gopher Poison

is most attractive to gophers, squirrels, etc., but sure death. Endorsed by Agricultural Colleges and Experiment Stations. Has had the greatest success for years in the Middle West, and also here in California last season. Circular with many testimonials and Affidavit of 201 killed in one day. If your dealer hasn't it, send $2.50 for two bottles, (not less than two) express prepaid by us. Money refunded if not as represented—so printed on the bottle.

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5,000 MEN OUT OF WORK

Can feed a few hens on the scraps from the table and have eggs for the family every day in the year—but

Little Chicks should be fed on **Excelsior Chick Food**

prepared from clean, sound grains, seeds, beef scraps and charcoal in proportions to make a well balanced ration and produce strong, healthy chicks and keep them continually growing. For sale by all dealers and grocers. Take no other.

Excelsior Cereal Milling Company

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LOS ANGELES INCUBATORS

RELIEVE POULTRYMEN OF HATCHING WORRY.

PEERLESS CHICK FEED

RAISES EVERY CHICK EVERY TIME

PEERLESS EGG FOOD

PRODUCES PLENTY OF EGGS ALL THE TIME

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IS GUARANTEED.

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White Wyandottes Exclusively

Our strain have won in strong competition on the Pacific Coast

Day old Chicks, Incubator lots our Specialty, $15 per 100

Booking must be made in advance. *Stock and Eggs For Sale.* Send for our new Catalogue

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Columbian Wyandottes exclusively. A few choice trios for sale. Eggs per setting $3.00 and $5.00. Eggs per 100, $15 and $20. Stock a matter of correspondence. LOCK BOX 51, GLENDORA, CAL.

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A Balanced ration made of pure grains (cracked), Seeds, Beef Scrap Charcoal. No grit no waste or bowel trouble in feeding this feed. Will send freight prepaid to any address for $3.50 per 100 lbs. Arizona points 50c extra.

Pioneer Hatchery 711 South Main Los Angeles, Cal,

Trap-Nested White Wyandottes

That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribons, all at Los Angeles County Poultry Ass'n Show, Dec. 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah.

Mission View Poultry Ranch Mrs. C. D. Hubbard **San Fernando, Cal.**

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Early Chicks Pay Best

Take advantage of the first suitable weather conditions in early spring and "set" as many broody hens as possible. You may have plump, tender-meated chicks, from one and a half to two pounds weight, in ten weeks' time after hatching if you give them proper feed and attention. Any of the foods commonly given is all right and your success will be ample, provided you escape a large per cent. of loss from the very common diseases which trouble young chickens.

Most chicken ailments come from dampness or overfeeding. Keep the quarters dry and give a little of

DR. HESS
Poultry PAN-A-CE-A

once a day in one of the feeds, and you will save nearly every chick. Where Poultry Pan-a-ce-a shows its great worth is as a tonic to correct the first tendency toward indigestion. Its use gives the organs a proper "tone" and maintains them in perfect health so that the growing chick is steadily deriving from its food every element required to hasten growth.

Poultry Pan-a-ce-a (the prescription of Dr. Hess, M.D., D.V.S.) contains iron to enrich the blood and nitrates to cleanse the system of organic poisons. It makes hens lay, shortens the fattening period for market fowls, and, by its germicidal properties, wards off disease. Endorsed by leading poultrymen in both the United States and Canada. A penny's worth is enough for 30 hens one day.

SOLD EVERYWHERE ON A WRITTEN GUARANTEE.
1 1-2 lbs. 35c.; 5 lbs. 85c.;
12 lbs. $1.75; 25-lb. pail $3.50.
Send 2 cents for Dr. Hess 48-page Poultry Book free.
DR. HESS & CLARK, Ashland, Ohio,
Instant Louse Killer Kills Lice.
THE PETALUMA INCUBATOR CO., PETALUMA, CAL., PACIFIC COAST DISTRIBUTERS.

Starbuck's Barred Plymouth Rocks

We trap nest our hens. Why set from poor layers? Bird laying qualities are inherited the same as any other. This year we have discarded all old matings and have gone to the next generation. Cocks have 9 generations of 200 egg mothers. Hens all from 200 egg mothers and from cock with 6 generations of 200 egg mothers, and are layingfine. We have divided into pens according to the way they are showing up in six months laying. $2.50 for 13 eggs from first pen. $1.00 from 2nd. until they have time to make longer records. (Except from our one best, not for sale. We claim the world's Barred Rock, 6 months laying record for this one.) Do you wish to hear about our prize winning Buff Orpingtons and Silver Wyandottes? We have something to crow about. No Sunday sales or visitors.

Wm Starbuck & Son, Fullerton

possible, selecting hens that conform in all sections as much as you can, and mate them with a male especially strong in their weak points, thus building up future generations. The care one type of fowls would succeed on would be a waste of money and labor on another type, hence the necessity of the birds in each pen being uniform in size and type.

This is one reason why so many who are careless in selecting their flocks make a failure of the poultry business. There are other reasons, but this is one, and when you make up your pens this winter, bear it in mind.—New England Poultry Journal.

MARKING CHICKS.

I have a way of marking my chicks that I never saw mentioned in any poultry paper; that is, as soon as they are a day or two old, I cut off a toe just far enough back to be sure to get all the nail off. It does not bleed but little, but if you cut much further back it may bleed considerable, which I want to avoid. With good shears it is done instantly, and they do not seem to mind it. A different toe each year.—Poultry Advocate.

SIZE OF A HEN'S EGG.

Has the average size of the ordinary hen's egg ever been mathematically computed? Yes. Great egg packers employ men who from dawn to dark do nothing but pass eggs, one after another, before a candle to insure only fresh ones being received. Measurements have been conducted by these and experiments based on perhaps a thousand eggs show the average length of a hen's egg to be 2.27 inches and the average diameter at the broad end 1.72 inches, while the average weight is about one-eighth of a pound.—Montreal Star.

LOCO WEED.

From a circular issued by the Department of Agriculture on results of loco weed investigations we quote:

The word "loco," from the Spanish, meaning crazy, has been applied for a great many years to a disease of stock and sheep in the semi-arid region of the West. There has been a general belief among stockmen that the disease is caused by certain weeds known as loco weeds. The name loco weed has been applied to a large number of plants, but two are considered especially obnoxious—Aragallus lamberti and Astragalus mollissimus.

More or less desultory investigations by scientific men have been made on this subject, the general result of which has been to imply that the disease was produced by some other cause than the loco plants. Later investigations have made it seem quite probable that the cause of the disease must be sought in some other direction. The investigations here recorded were undertaken to clear up first of all the doubt concerning the source of trouble.

The first essential point was to demonstrate whether the loco weeds did or did not cause the disease. The work of the first season, the summer of 1905, accomplished this demonstration in a very satisfactory way. It was clearly proved that Aragallus lamberti would poison horses, sheep and cattle and that Astralagus mollissimus would poison horses. Astralagus mollissimus does not poison cattle because they very rarely eat it.

The work of the second season, the summer of 1906, was mainly devoted to a diagnosis of the disease. The external symptoms described by stockmen were in general corroborated. The principal symptoms are the lowered head, rough coat, slow, staggering gait, movements showing lack of muscular co-ordination, sometimes more or less paralytic symptoms, a generally diseased nervous system, and in the later stages of the disease extreme emaciation.

The principal pathological changes are pronounced anemia of the whole system, diseased stomach walls, and in acute cases a congested condition of the walls of the stomach, while in chronic cases there are frequent ulcers. Generally speaking, locoed cattle have ulcers in the fourth stomach. There is an excess of fluids in the various cavities of the body. This is especially noticeable in the epidural space of the spinal canal. Here the effusion is more or less organized, presenting the appearance of a gelatinous mass, which is especially abundant in the lumber region and about the exits of the spinal nerves. In most locoed females the ovaries are found in a diseased condition.

BLACK MINORCA.

The third stage of the work was the devising of remedial measures. This was undertaken in the summer of 1907. This work naturally had two phases, (1) attempts to eradicate the weed and (2) attempts to cure the locoed animals.

In regard to the possibility of killing the weeds, it was found that this could readily be done in the case of fenced pastures. This is especially feasible with Astragalus mollissimus, because it occurs in comparatively small patches. Aragallus lamberti has a wider distribution, but it is not at all impossible to destroy this weed when in pastures. There seems to be no way of ridding the ranges of these weeds, however.

In regard to the second phase of remedial work, it was found that locoed cattle can in most cases be cured by a course of treatment w
nine, while locoed horses ca
ly be cured by a course of
with Fowler's solution. Th
under treatment must not
to eat the loco weed and
given not only nutritious fo
far as possible, food with
properties. To this end m
sulphate was administered
the constipation which is al
versal among locoed anim
should be noted, too, that m
sulphate may serve to some
an antidote to the poison.

It may be added, in rega
question of immunity, that
soning comes on in a slow a
lative manner, so that there
sibility of animals becoming

A MOUNTAIN VIE

She (on their wedding t
mountains)—Carlo, what's
white streak on the ground
ward our inn? He—My Lor
probably our bill!—Tr
Tales.

Behavior is a mirror in
every one displays his imag
the..

Fancy Barred Ro
Eggs From Prize Winners
First Pen $2.00 per Sit
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Phone East 444 245 Newland
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Blue Andalusians, Buff Orp
Black Minorcas, S. Duckwing Legho
I won at the late Oakland show 1 S
first, 1 second, and 1 third prize with 8
Eggs and Birds for sale
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HOLLINGWORTH POULTRY
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SHADE'S RHODE ISLAND
The World's best layers. G
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Good, White, Typical Birds. Stock and Eg
W. A. SEYMOUR
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And Golden Sebright Bantams, prize winner
Stock and Eggs in season
M E. Dillingham, Box 67 San Gabriel, Cal

S. C. Rhode Island Reds
Eastern prize winners. Prices reduced. St
ard eggs, $1; select prize, $1.50. Stock, $1
Our yards are carefully mated to succe fully
duce the "True Reds" of exhibition quality. A
dress WHITE'S TRUE RED YARDS, Dolgeville, Cal.

A State Poultry Keepers' Organization

E recently mailed a circular etter to the secretaries of all poultry associations that we rmed of, requesting that they elegates to meet at some cennt for the purpose of forming organization but met with ttle response. We consider atter of too much importance poultrymen of our State to be to drop without further disand we hope that this subl be taken up by the poultry nd discussed.

artificial manipulation of the s by the Produce Exchange ring without regard to the supply and demand and the ent rally in prices after the of the Sonoma County Core Association should set poulto thinking, as I am confident e action of that association in the bull by the horns is all ved the market from a much decline during the storage We have the power, if rightied, to see that the laws of and demand are not set at by an organization of San co middlemen.

ry raising in California, as a s, is rapidly growing and is suming front rank among the industries of the State. It is ger an experiment but a profndustry, engaged in which are nd women who give the busine same careful attention as e orchardist, the merchant, or nker to his. Besides push and brains are being put into the business with the result that it is no longer combined in a haphazard way but with a close attention to detail that has made for success.

From an interchange of ideas and experiences many valuable and profitable poultry lessons have been learned. This has lead to local and county organizations which have been conducive of much good. Frequently these associations have been forced to grapple with the important financial end of the industry in the regulation of prices charged for feed, freight tariffs, and kindred equally important matters.:

Through the power of co-operation —the members acting as a unit— large savings have been effected in the purchase of supplies, the reduction of freight charges and fairer dealing by the middlemen, with whom, under existing conditions, we all have to reckon. We have such an Association here in Hollister which has been both profitable and instructive to its members. What has been accomplished locally has led to the idea of a State association for the discussion of matters in which poultry keepers have a mutual interest and for the advancement of the industry along such lines as may be deemed advisable. Cattlemen, orchardists and kindred interests have such organizations which have not only proved beneficial but profitable, for State aid has been secured, through co-operation, whereby pests and diseases, if not wholly eradicated, have been brought under control. What others have done, why cannot poultry keepers do?

A State organization can be effected by the election of delegates for the various local organizations to meet at some central point at a time to be mutually agreed upon. To that end the associations are requested to take such action as will express their views, advising the undersigned who, in behalf of our association, volunteers to act as secretary until such time as the organization is effected or the idea abandoned.—F. L. Jones, secretary Hollister Poultry Keepers' Assn.

CHOOSING THE FLOCK.

In writing this article I assume that the beginner has already decided on a place in which to keep his fowls, and after all, it's not the style of building so long as it is dry and comfortable, that makes success, for there are flocks in all sorts of houses and coops that pay their owners large interest on the work and money expended.

My ideas of a house might not suit others, and theirs might not meet with my approval, so let each one suit his own fancy in this respect. Neither am I going to try in this article to tell which breed is best; that also depends to a great extent on the person; but rather how to pick out the birds you should keep, from whatever you may have, whether pure-bred or mongrels. Don't think I mean to claim that all breeds can be mated for best results according to the same rules in everything. But there are general principles that apply to all stocks.

Many flocks of hens are composed of several different types of birds, yet they are all mixed in together or else sorted according to color. Here is a beginning of failure, for different types require different care.

If yours are pure-bred fowls, then their breed has a distinct type, and only those individuals that correspond to that type are profitable ones to keep, for those that diverge from this are more or less abnormal, and if the divergence is very great, should never be used, even though of themselves they may appear nearly perfect. Perhaps I might say the type is abnormal, and not the individual, as when one of the American class partakes of the Mediterranean form. Such specimens may appear all right, but if you select such to keep, you are opening a door to failure, as such birds will not, as a general rule, do nearly as well as one of the true type will.

Many persons have the idea that a hen with a long, slim body, small head and fairly large comb will make the best layer, but they are mistaken unless the breed calls for such a type. If such birds are selected from the American class a great mistake would be made and almost certain failure result, yet some do it, make a failure and condemn the breed, or all breeds, as not worth keeping; while if the Americans are selected as they should be they will hold their own with any breed, and make money for the owner. It is the same with all breeds, select for type first, and the nearer your birds come to standard requirements the more profitable your flock will be.

If yours are mongrels select only birds having the same type and those having a symmetrical form. Some hens are decidedly masculine in appearance; let all such go as worthless, and throw out all having any deformity. Now make up your pens of as near uniform specimens as

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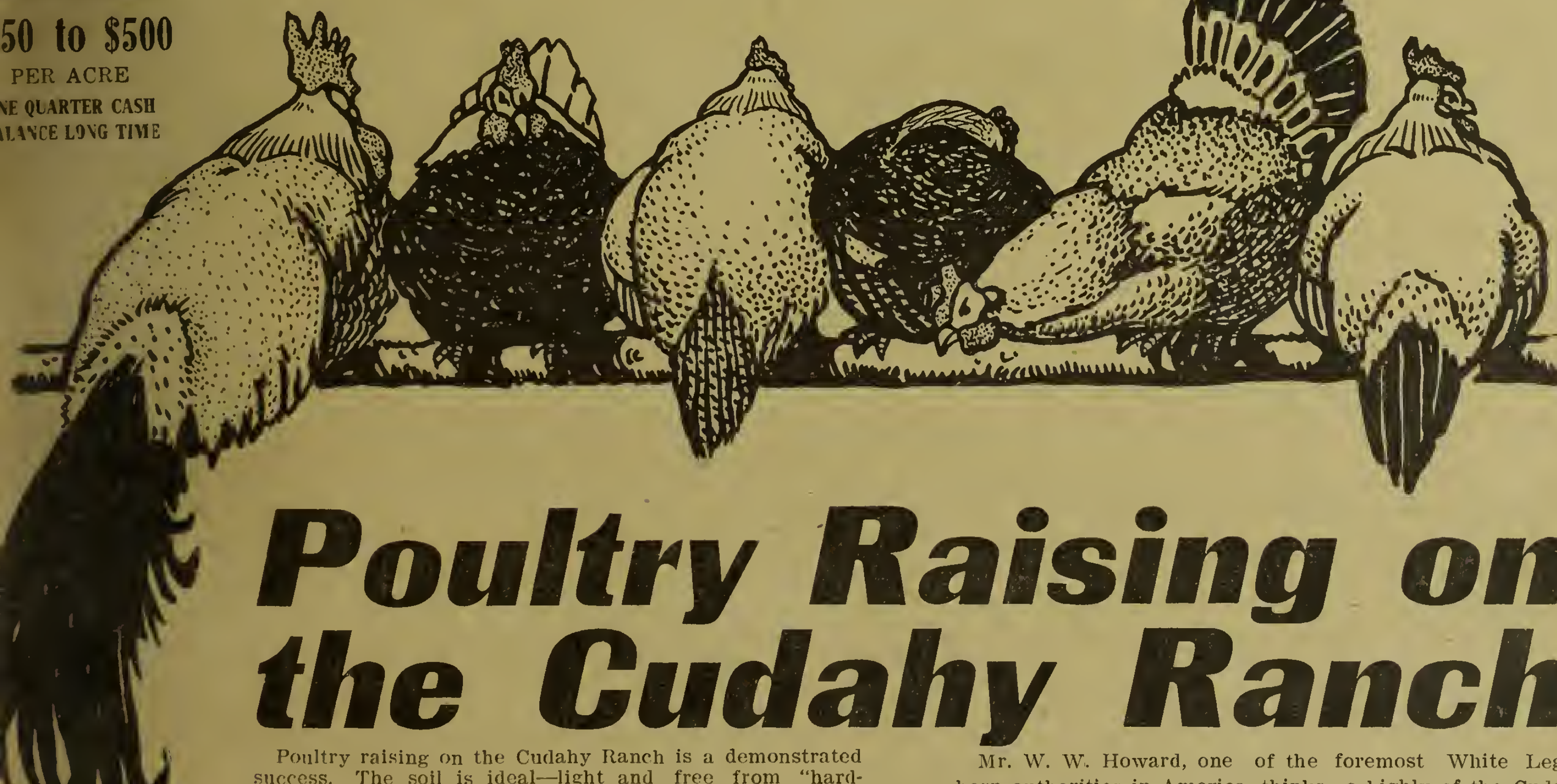

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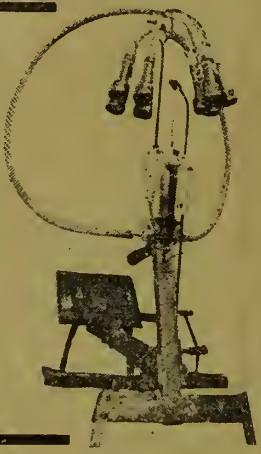

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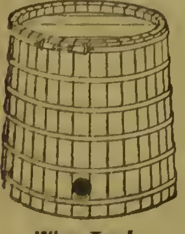

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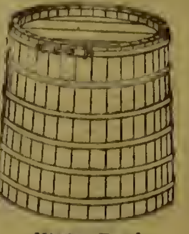

Water Tank

Live Stock and Dair

VARIOUS HAYSEEDS.

WHEAT, oats, barley and alfalfa are the hay producers in common use. The usual fault in sowing is light seeding, 100 pounds and upward of the cereals is not too much. Upward is more profitable than less than this amount. I speak of this because it is a struggle to get enough seed on the land. The men seem to think it a pity to cover up with earth good foodstuff like seed. Experience should teach the importance of this seeding, for whenever the crop proves not worth harvesting and the grain is left to volunteer, the volunteer crop is always heavy, often double the usual crop. Any one who has disked down a crop of grain as not worth cutting for hay has been surprised at the immense crop of hay the next year. The seeding was heavy was the explanation, not the usual one given of that "volunteer crops are always best if one could always have them.

Germination.

The commercial seeds should always be tested before sowing extensively. Asimple way is to put the seed between layers of blotting paper, soaking the paper in warm water and putting it on a plate in a warm place. The seeds will sprout quickly. Count those that failed to grow and then those that have grown to find out the money value of the seeds. Often the highest-priced seed will be the cheaper in the end. This year I had samples of alfalfa seed sent to me that less than 10 per cent. would sprout. There were plenty of other seeds mixed in that did sprout more readily. A sample of seed barley, 95 per cent. grew readily, while another sample of barley less than 60 per cent. half germinated in a two weeks' test. The first sample was worth double that of the second for the reason the first would have all grown while the second was so slow that had any dryness or other troubles come, a larger per cent. would have been caught by the vicissitudes.

Alfalfa Seed.

This season the alfalfa seed has been unusually good. The vitality has been high. The constant demand for clean seed is bringing results. Dodder seed has not been as plentiful. I found it in three samples only out of ten, and in only one was it marked in quantity. One sample was curious in that it seemed to be a familiar seed, but not alfalfa. I could not locate it until it began to grow, when I recognized the old and valuable nitrogen-producer burr clover. This, however, was certainly an error of some one in mixing the two seeds, as the burr clover was nearly half the seed. Cleaned burr clover seed is too valuable to be used to cheapen alfalfa seed. The purity of the alfalfa seed can be readily determined by testing it. Pour out a teaspoonful on a sheet of white paper—spreading it around loosely for examination. By carefully looking at an alfalfa seed it will be found to be slightly curved, longer than it is broad, rather thick, of an olive green color. On one side is plainly visible the tiny moon-shaped scar where it was joined in the pod. This same scar can be studied on the side of the beans in the next dish of baked beans you try to think real good eating!

Dodder seed is the greatest to be feared of all the pest of the alfalfa field, yet the seeds can be r screened out before sowing. T der seed is a dull yellow seed ly transparent or perhaps tran would better describe it. The oval and flat, not noticeably th the alfalfa seed; it is also wi side scar, or moon, so noti the side of the alfalfa seed. C seeds off into groups until a have been counted, then see ho of these are alfalfa seed, and t centage is easily arrived at. of white paper and a darning is all that is necessary to count out the seeds. The germ test is the same for all seeds.

M. E. SHER

FEEDING BEET PULP TO ST

In Bulletin No. 101 issued Utah station, we note the fo conclusion regarding the adv of feeding beet pulp and mola stock:

The principal question stu the value of sugar beet pulp fo animals, though tests of the a apples for pigs and of gains different breeds are also repo

In a test of the value of and alfalfa with and wit made with five lots of fi each the great gain per h day in a 70-day period, 2.06 was made by a lot fed a daily of alfalfa and beet pulp ad with four pounds of grain, a smallest gain, 1,37 pounds, lot fed alfalfa and beet pulp tum without grain. The gain most expensive, costing 7.31 per pound on alfalfa and bee ad libitum, and was least exp costing 3.83 cents on alfalfa tum and one-half as much p

In a similar test made lots of 15 sheep each th ranged from 0.2 pound per day with the lots receivin tively, alfalfa and beet pulp tum with and without 0.5 grain per head per day to 0. per head per day with the ceiving alfalfa and beet pulp a tum with one pound of grain was most expensive with th mentioned lot, costing 5.15 cent was cheapest 3.18 cents, with th fed alfalfa and a half ration o pulp.

When sugar beets were add alfalfa and grain a lot of four made an average daily gain of pounds per head in a test cov 100 days, while five steers fed a ilar ration without sugar gained 1.13 pounds. The cost pound of gain in the two cases 9.6 and 7.3 cents respectively

When similar rations were with sheep the average daily with beets was 0.35 pounds per and without beets 0.22 pounds, period covering 137 days. Th of a pound of gain in the two was 6.9 and 5.7 cents, respecti

To secure data regarding t e fects of beet pulp on the stren h bone a lot of three wethers was f 10 pounds of pulp per head per da while a similar lot received no pul The strength of a number of t more important bones was dete mined with a testing machine and every case it was found that the was a difference in favor of the pu ration.

Beet pulp as part of a ration wa studied with two pairs of wor horses for two periods of 28 day

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each, one horse in each team receiving pulp and the rations being reversed during the second period. An average loss of six pounds per head was noted on the pulp ration and of two pounds on the ration without pulp. "As high as 20 pounds of pulp was fed to horses per animal per day without any apparent injury. In a ration of alfalfa hay and oats nine pounds of well-fermented solid pulp saved 1.5 pounds oats. The horses took to the pulp reluctantly and their appetite for it gradually decreased." Colts have been allowed constant access to pulp, according to the author, for several years and in no instance has trouble arisen from it so far as is known.

In tests of the value of sugar beet products for pigs, it was found that five pigs, fed green alfalfa, skim milk and shorts with molasses, made an average daily gain of 1.03 pounds per head in a 58-day feeding period as compared with 0.85 pounds per head per day with a lot of four pigs fed a similar ration without molasses. The cost of a pound of gain in the two cases was 2.43 and 2.92 cents, respectively.

In a second test shorts with and without beet pulp, with sugar beets, and with pulp and molasses were compared in a period covering 48 days. The gains ranged from 1.2 pounds per head per day on both the shorts and beet pulp and the shorts and sugar-beet rations to 1.73 pounds on shorts alone, and the cost from 2.21 cents on shorts, pulp and molasses to 3.71 cents on shorts and sugar beets.

When shorts and skim milk with and without beet pulp or sugar beets were studied the smallest gain, 1.07 pounds per pig per day, was made by the lot fed the skim milk and beet pulp ration, and the greatest gain, 1.36 pounds, by the lot fed shorts and skim milk only. The gain was least expensive, costing 3.38 cents per pound on shorts, skim milk and beet pulp, and most expensive, costing 3.93 cents per pound on shorts, skim milk and sugar beets.

When apples as part of a ration were fed to pigs receiving shorts and skim milk the average daily gain per head in two tests with apples was 1.6 pounds and without apples 1.4 pounds. The calculated value of the apples, according to the author, ranged from nothing to 18 cents per 100 pounds.

When apples and shorts were fed in comparison with pasturage and shorts to two lots of three pigs each, they were found to have a feeding value about equal to grass, the average daily gain being 0.59 pounds per pig on the apple ration and 0.56 pounds on pasturage.

HOW TO FEED.

Our present knowledge of feeding can be boiled down into the following maxims:

The more food the cow can be induced to eat, the more milk she will produce. Cows do not usually consume more food than they can properly digest. The ration, therefore, should be made as palatable as possible in order to induce the cow to eat large quantities.

The larger the amount of protein in the ration, the larger the milk flow. Protein in the ration is essential to the production of the milk.

The less energy required to digest the ration, the larger the milk flow.

The richer the ration, the richer the

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From the invention by DE LAVAL of the first practical cream separator in 1878 the DE LAVAL machines have always been in the lead.

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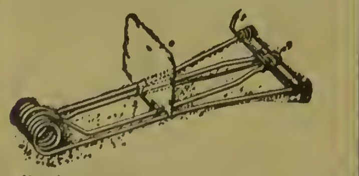

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manure. The dairy farmer must look here for a large part of his profit.

No two cows can be fed alike. Each must be studied differently. Increase the protein in the ration and watch the milk flow.

Change the hog pasture very often. In the first place if fed too long in one pasture the grass will be entirely killed out. It is best to build a small shelter on skids which can be moved from one place to another.

Many a man is penny wise and pound foolish when it comes to purchasing a milch cow. It doesn't pay to buy a cow just because she is cheap and imagine you've got a bargain. The loss you'll find in the milk pail.

The bull at best is a treacherous beast. Always keep your eye on him and be careful not to turn your back, unless he is tied.

The farmer who thinks more of his own welfare than he does of that of his live stock, is often disappointed on market day.

The milk of every cow should be weighed and a record kept, and the milk should be tested by the Babcock test twice a month. You will never know the true value of each cow in your herd until this is done. To do .. will require a little time, but it will prove the most profitable time you devote to your whole business.

CHANGE IN TEXAS FEVER
ANTINE REGULATION

New regulations regarding fever of cattle have been issu the Secretary of Agriculture t effect April 1. They are desi as Bureau of Animal Industry 151 and Amendment 3 to Ordc and copies will be furnished to ested persons on application Bureau at Washington, D. C.

These regulations describe th quarantined on account of fever, and prescribe the conditio der which the movement of from that area is permitted. general rule, between Februar October 31, cattle may be mov the quarantined area only shipped by rail to market cen immediate slaughter. Specia sion is made, however, for th ment of cattle for other purpos certain districts where some farms and pastures have been t ticks, when the cattle are and certified to be free fro These districts are hereafter r to in this article as "provi quarantined."

The principal changes m Amendment 3 to Order 143 c amplifying the specifications construction and mainten yards and approaches for sive use of cattle from th tined area in the course of tr tion through non-quarantin tory, and in prescribing simila fications for noninfectious pen quarantined area.

Order 151 changes the qu line in several particulars. the changes are the result of done during the past year by reau of Animal Industry in tion with State authorities eradicating the cattle tick, is, consequentlly, a conside duction in the quarantined quarantine now includes States of Louisana, Missi bama, Florida, South Car parts of California, Texas, Ok Missouri, Arkansas, Tenness gia, North Carolina and Virg

The actual changes in the tined area compared with la are as follows in California:

The remainder of Madera (that part lying west of the of the Southern Pacific Railw released from provisional qua and the counties of Ventur Riverside are admitted to prov quarantine. This leaves o counties of Orange, San Diego a perial as the area that is who antined.

The new regulations recog the correct scientific name of tle ticks "Margaropus annula stead of "Boophilus annulatu heretofore used. This change because scientists are agreed der the Zoological law of pri former name takes precede the latter.

Grain growers in El Dorado ty have met serious loss in grain for seed, which did not nate. It is asserted that th ment to destroy the weevil the destruction of the germ.

Oranges have been delivere Eastern markets this year much promptly than for several years S cars have been landed in New this year in twelve days instead twenty as was formerly the ca

For Mehring Foot-Power Milking M chines see O. J. Weber Co., 555-557 Los Angeles St., Los Angeles, Cal

ALK ABOUT GOOD ROADS.

bject of good roads is one
interest to all classes of peo-
farmer wants good roads in
t he may deliver his products
with the least wear and tear
am and wagon; the merchant
od roads in order that the
ay get to town oftener; the
list wants good roads in or-
he may travel with more
and safety. So it goes with
re is an especial reason for
wanting good roads, the
ining that everybody is in-
n them.

lifornia Promotion Commit-
nizes this fact, and has
ing a campaign for good
California for several years.
oming meeting of the Coun-
mittee of the California Pro-
ommittee, to be held in Santa
June 6, "Good Roads in Cal-
s the theme of the discus-
experts in good road making
s experts in good road using,
on the ways and means and
fits from good roads.

ment experts as well as farm-
be represented, and it is ex-
at tangible results will fol-
as they have followed all of
meetings of the Counties'
ee in the past. So great is
st taken in this subject that
cted that this will be the best
meeting that has been held,
ninth semi-annual meeting
own in history as one of the
ctive that has been held.

expected that this meeting
held on May 9, but the com-
e big warship fleet to San
Bay at that time upset the
it was deemed advisable to
the meeting until after the
ertainment and excitement

ual rate of a fare and a third
California points for the
p ticket, on the receipt certifi-
has been allowed by the
and as Santa Cruz is mak-
efforts to make this one of
t enjoyable meetings ever
who go may be assured of
e most entertaining and in-
outings that have been held
e auspices of the comittee.
summer sea beach season in
at Santa Cruz, together
umerable plans for entertain-
at are being devised by the
uz people, those who attend
h semi-annual meeting of
ties' Committee will assured-
me well pleased with every-
nnected with the occasion.

eeting will be open to all
come, and everyone is in-
participate in the discussions
arious papers which will be
those on the stated program.
will the accredited delegates
various organizations of the
welcome, but all who have
in either the subject or the
e will find a place for them
the proceedings, and attend-
rtainments that will be pro-

ACTORY DUST SPRAYER.

apsack sulphuring machine,
said to be one of the best
rayers made, is now handled
United States by the H. C.
Co. of Stockton. This is a
machine and has had wonder-
ess in French vineyards. It is
he Vermorel Torpille Knap-
lphuring Machine.
er information may be had by
ng the Shaw Co.

GRASSHOPPERS IN ALFALFA.

The alfalfa fields suffer to a greater or less extent every year from the ravages of grasshoppers. Of the several hundred kinds known to the specialist, two appear to be the most frequent cause of complaint. They are among the largest species that we have and are known as the differential and two-line grasshoppers. The former is greenish yellow in color and the latter is marked by two pale lines running down the sides the entire length of the body.

The eggs of both kinds are laid in late summer or fall in pods in the ground. Thirty or forty eggs are placed in each pod. The pods are placed an inch or more under the surface of the ground and are made almost waterproof by being lined and covered with a sticky fluid which hardens into a leathery case. The insects seem to prefer a compact soil which is not too moist. Hence, ditch banks, paths and dry knolls are most often selected.

In the spring when the alfalfa begins to grow, the eggs hatch and the young hoppers find an abundant supply of fresh, succulent food which is just what they need for their success in the world.

At this season the injury is not much noticed because the "hoppers" are so small that the quantity eaten is not very great. Later in the summer when they attain considerable size, the case is different.

The best remedies are preventative and can be applied in early spring with benefit to the alfalfa crop.

All ditch banks, fence lines and waste corners should be burned over and cleaned up. If the surface of the ground can be stirred to the depth of two inches great benefit will follow. This measure tends to break up the pods of eggs, exposing the contents to the weather, which is almost certain to be fatal. The eggs will be dried out or soaked with water, in either case preventing their hatching. The birds and other animals will be able to render much better service by eating large numbers of them.

The alfalfa field should be thoroughly disked to the depth of two or three inches. This will accomplish the purposes stated above. In doing this work set the discs nearly vertical so that they will not cut off the crowns of the plants. Prof. Olin of the Colorado Agricultural College is authority for the statement that disking acts like a tonic to alfalfa.

Co-operation among farmers having adjoining fields of alfalfa is very desirable since the "hoppers" are much given to migrating from one field to another.—S. Arthur Johnson, Associate Professor of Entomology, Colorado Agricultural College.

SUCCESS INCUBATORS.

The E. E. McClanahan Company of 711 S. Main street, Los Angeles, has just issued a most attractive catalogue of the Success Incubators. It starts in with a dozen reasons why one is able to "succeed with a Success." Built for Pacific Coast trade and to meet coast conditions. Selfishness does not prevail in the putting together of the book, for we note an article by F. H. Thomas on care of chicks, also one by Mrs. Basley on selecting eggs for incubation. So the booklet is well worth sending for.

If the Cultivator is mentioned the book will be sent for the asking.

Turlock expects great benefits from the co-operative marketing association known as the Central California Produce Company.

Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

EGGS FOR HATCHING.

ORPINGTONS, BUFF AND BLACK, THE winners of the lion's share of honors at the Los Angeles County and Breeders' shows this year. The birds that win in the keenest competition and lay eggs all the year. Birds that pay as they go. Handsome catalogue free. Guaranteed fertile eggs in any quantity. Proven breeding stock very reasonable. Write today. Orpington Reservation. ROSS & TATE, Altadena, Cal.

EGGS FROM MY PRIZE WINNING BARred Rocks; won all firsts, all seconds but one, and all specials on Barred Rocks at L. A. C. P. A. Show, 1907. Eggs from best pens, $3 per 15; $12.50 per 100. Stock for sale. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

WHITE LEGHORNS (HOWARD STRAIN), W. Wyandottes (Hubbard strain) Eggs; Leghorns, $5 per $100; Wyandottes, $7. Baby chicks FROM BRED TO LAY STOCK SHIPPED anywhere. Ranch 2 blocks from car. F. T. McLAUGHLIN. Gardena.

BARRED ROCKS A SPECIALTY—I CAN supply eggs from strong, vigorous birds barred to the skin and correctly mated for $1.50 and $2.50 per 15. Incubator lots a matter of correspondence. ENOCH CREWS, Darwin and Broadway Sts., E. Santa Cruz, Cal.

S. C. WHITE LEGHORNS—THOROUGHbred; 200-egg trap nested strain. $1.50 per 15. Indian Runner ducks, $1 per 12. Roosters and cockerels for sale. A. HENRY, "The Foothills," Orchard & Poultry Ranch, Rumsey, Cal.

What a Liner Will Do

Pomona, Cal.

I have received just $14.00 from my little liners for which I paid you $1.60.

Mrs. C. H. Vary.

HART'S BRONZE TURKEYS ARE KNOWN the world over; are unexcelled for size, hardiness, beauty of plumage and early maturity. Eggs for hatching $5.00 setting, $35.00 per 100. ED. HART, Clements, Cal.

BUFF ORPINGTON AND WHITE Rocks, $2.00 per sitting, $6.00 per 100. Indian Runner ducks, $1.00 per 12, $5.00 per 100. First class stock. WYATT & WOLLITZ, Fern Park Poultry Ranch, Corona, Cal.

FOR SALE—EGGS OF THE FOLLOWING standard bred poultry: Black Orpingtons, the great winter layers, Brown and White Leghorns. J. J. VERKOUTEREN, route 3, Hanford, Cal.

FOR SALE—LINE BRED WHITE ROCK cockerels from Mrs. Basley's original strain. Write for prices. Also eggs for sitting $2.50 per 15. MRS. KATE B. JOHNS, Compton, Cal.

STANDARD BRED WHITE PLYMOUTH Rocks, best of layers, unexcelled for table purposes. Eggs for hatching, $1.50 per sitting $8.00 per 100. MRS. M. A. HUDDLESTON, Sawtelle, Cal.

ALTADENA ORPINGTON FARM—MATSON Hayden, Box 1001, Pasadena. Golden Buffs exclusively. Settings $10.00, $5.00 and $3.00. Five winnings at show Los Angeles 1908. Satisfaction guaranteed.

EXCLUSIVE—EGGS FROM PRIZE WINning stock; Single comb Rhode Island Reds, $1.50 per setting. See my birds. H. P. SHEETS, Pomona, Cal.

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S. C. RHODE ISLAND EGGS, WINSLOWS strain. $1.00, $2.00, $3.00 for 15. MRS. JOHN E. ADAMS, Box 785, Monrovia, Cal.

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FOR SALE—ROSES, FIELD GROWN AND grafted; two-year-old plants. Will sell in large lots at a bargain before potting them. H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

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FREE—A VERY PRETTY "FLAG" CARD. An excellent portrait of Admiral ("Fighting Bob") Evans is printed on a beautiful embossed post card showing "Old Glory" in brilliant colors and gold. Send name and address with stamp to WALTER SPECIALTIES CO., 227 South Fremont Avenue, Los Angeles, Cal.

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LAKE AVENUE POULTRY YARDS—WON 5 cups, 27 ribbons on Reds this season, including five straight firsts at Breeders' Show. Standard eggs $2.00 for 15, $8.00 for 100. Special matings $5.00 and $3.00 for 15. New mating list. 755 N. Lake Ave., Pasadena.

FOR SALE—A FEW BLACK MINORCA pullets, $1.00 each; one black Minorca cockerel, $2.00; one R. I. Red cock, $2.00; eggs Black Minorca, $1.25 per 13; eggs R. I. Red, $2.00 per 13. W. O. SHAW, Serrano, Cal., San Luis Obispo county.

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FEATHERLY FARM BUFF, BLACK, White Orpingtons. The greatest prize winning and heavy egg laying strain in the WEST. Free catalogue of matings. PERCY HARLEY, Redlands, Cal.

INDIAN RUNNER DUCKS AND BLACK Langshan fowls. Eggs and stock for sale. Large, fine stock, with good range and strong fertility. CLYDE J. MOSS, Corona, Cal.

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TREES.

WHAT HAVE YOU IN NURSERY STOCK? Address M. HALL, 1310 D ST., San Diego, Cal.

HIS EXCUSE.

"But why did you backslide?"

"Because of the preacher."

"How was that?"

"He painted the pleasures of the world so beautifully that it made me homesick."—Nashville American.

"Madam, do you keep hens?" asked the lady with the gold-rimmed eyeglasses at the door of the farmhouse. "Sure!" replied the woman in the door, wiping her chin with her gingham apron; "are you lookin' for board, ma'am?"—Yonkers Statesman.

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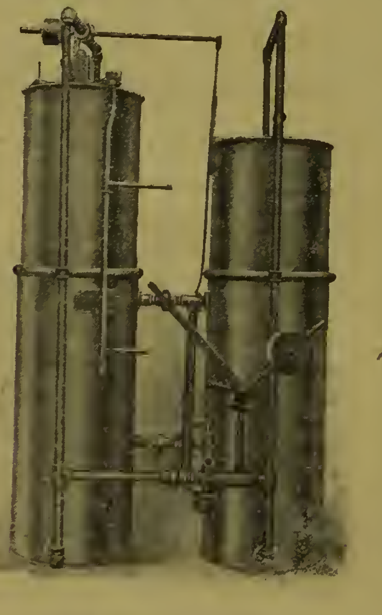

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Good reliable Agents wanted.
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The boss sent me down to ast you to tell all your friends that we have mooved.
Nope, Im the janitor.
Yep, the other place got too small after pepul got onto that 1908 Model. Yep, that's the one where you can see the feed valve. Bulsy[Well, I guess, we are; keeps me busy rolling em out on the walk to the dray.
Simple to operate? Well, yea'ss I should say so; sold one to a Widder woman whos boy don't know how to eat with a knife and fork, but he can charge the machine all right. So long! You fix it up, tell em all about Acetylene Gas. Oh tell em to come in and see us er elce rite.
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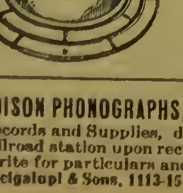

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Household Departme

FAIRYLAND.

Do you know of the house
  Where the ginger snaps grow?
Where tarts for the children
  March out in a row?
Where wishing is having?
  Where—isn't it grand?
Just up in the garret
  Is real Fairyland?
Where youngsters can caper
  And romp and hello?
For they always do right,
  Whatever they do.
You don't know the house?
  Then, oh, deary me,
I'm sorry for you!
  Why, it's grandma's, you see.
Don't look for the flaws as you go
    through life,
  And if you happen to find them,
It is wise and kind to be somewhat
    blind,
  And look for virtue behind them.
For the darkest night has a hint of
    light
  Somewhere in its shadow hiding,
And 'tis better far to hunt for a star
  Than the spots on the moon abiding.
—ELLA W. WILCOX.

COMPARING VIEWS.

"WHY," remarked the Bachelor Girl, nodding toward a bored-looking couple, who sat as far apart as possible on the bench opposite, "are they always like that—after marriage?"

"Perhaps," suggested the Mere Man, edging closer to the Bachelor Girl and casually letting his arm slip across the back of the park bench, "it's because they're too much like this before marriage.".

The Bachelor Girl glanced up and started to rise.

"Or perhaps," added the Mere Man, hastily removing his arm, "it's because they're thinking of their troubles and worrying about their bills and——"

"I don't believe it," declared the Bachelor Girl, sitting down again and thoughtfully digging her toe in the autumn leaves at her feet. "It isn't the troubles and worries that separate married people; it's the pleasures"

"What?"

"The pleasures they don't take," explained the Bachelor Girl; "The leisure hours they don't know how to fill in, nor what to do with; the dull Saturday afternoons and long, dreary Sundays; the stupid evenings and mirthless holidays. Haven't you noticed that all the most harrowing domestic scenes and all the marital squabbles that are brought into the divorce court and the police court occur over Sunday?"

"I've noticed it," remarked the Mere Man thoughtfully. "A girl will enjoy following her sweetheart over the golf links until her knees and elbows ache who wouldn't touch a golf stick after she was married to him."

"And I've noticed," retorted the Bachelor Girl, "that a man will find a mad excitement in walking twenty miles a day with a woman with whom he is in love who wouldn't bother to walk around the corner with her if she were his wife. Just because a man will allow a girl to read Browning to him and air her opinions of Ibsen before marriage is no sign that he is going to let her read the morning paper to him and air her opinions on politics afterward: and just because he will spend his time and money taking her to grand opera during their engagement is no reason that he won't drag her to vaudeville shows and extravaganzas after the wedding. In the love stage any two people can fancy they have tastes in common; but, as a matter of fact, men and women haven't any ta common whatever. When they congenial it's merely a matter having subdued the other an made him or her go his way.

The Mere Man took off his h gazed at the Bachelor Girl in c nation.

"Do you mean to say," he ex "that if I married you, you w enjoy walking in the park wi

The Bachelor Girl gazed dr off through the trees.

"And that you are just prete to like rarebits and the smell pipe?"

The Bachelor Girl looked d her toes.

"And that you are really bo death when we are discussing the sex problem, and that you ly hate bohemian tables d'h the Rubaiyat and the way I p hair, and that this minute y actually annoyed——"

"Oh, not this minute," broke Bachelor Girl. "I'm not marr you—this minute."

"Humph!" grunted the Me "And yet we marry for co ship! We marry because we some——"

"And are always ten t lonesome afterward," fini Bachelor Girl with a sigh. " ry because we want to live and immediately proceed to our lives."

"But," objected the Mere Ma fully, "don't two married peo work together?"

"Of course they do," reto Bachelor Girl, "but they ne together. As long as two y ple are struggling through pov trouble, they go hand in long as the husband is earn a dollar and the wife to make it go as far as po don't listen for the discord in ding march. But the minut on their feet and have plenty to amuse themselves, they s notice that the marriage bells of tune and discover that th to go in opposite directions. Th develops a taste for poker and liards, and the woman devel longing for bridge whist and s The man finds he has been dr all his life of spending his su fishing in the Adirondacks, wh woman has been dreaming o ing hers at Newport and Bar bor. The man is delighted at prospect of having long, quiet e ings in his library with noth worry or bother him, while the an is planning to give dinner p and go to receptions. And right at the beginning of their pro is the parting of the ways."

"And they never can meet on common ground until they meet burying-ground," put in the Man gloomily.

"Yes," agreed the Bache "even if they do try to be acco dating and to take their amus together, they never get any mu satisfaction out of it. If they go the races, he wants to talk about th horses and she wants to talk abo the hats. If it's a dinner, he wan to discuss the oysters and the win and she wants to discuss the deco tions and the women. Even if it only Coney Island, they will figh about whether to go through the imi tation heaven or the imitation hell."

"And when they try to a th

separately," rejoined the Mere they get in one another's sensi- and knock down one another's ıs. If the man smokes around use his wife is miserable at the t that he is ruining his health ıe parlor curtains. If he gets his club she is eaten up with y and suspicion. If——"

l if the woman takes to pink d matinées and women's clubs," the Bachelor Girl hastily, "her d considers himself a blighted rsaken being."

yet," murmured the Mere Man, off at harems."

ems, Mr. Porter

at the chap," continued the Ian, "who ties his women folk house while he goes off in his ack, perfectly assured that they ready and waiting for him he chooses to come back. I he Turk knows what he's doing. sn't have to go harrying around rch of an affinity. There's only of tastes in his house, and one mme of amusements, and one fare of pastimes, and if he hap- o marry a lady who prefers a nt brand of cigarettes and a nt style of carpet, he has only her in a sack and drop her in editerranean and——"

Bachelor Girl broke in with a

ll the Turks did that," she gur- 'the Mediterranean would be up by this time. Even a is human."

he knows how to choose a declared the Mere Man. "He enough to pick out a woman ill amuse him."

if that were the only thing!" achelor Girl shot a look of at the Mere Man.

the most important thing," he d doggedly. "Two people who ıuse one another will never pall another. Haven't you noticed hen by a rare chance two peo- h a mutual passion for any one e marry—two golf enthusiasts, hunting or fishing fiends, or ridge whist maniacs—they are ppiest people in the world? The is that we always marry one r for our serious qualities, when we should marry for is for our us qualities. A man should not a wife because she is good and tic and intellectual and refined, ecause she can beat him at po- —"

eg your pardon, Mr. Porter."

d a woman should not marry a because he is noble and brave apable and wholesome, but be- he is fond of going to dances, or g the mandolin, or studying the ns——"

ıat nonsense!"

hould choose you, for instance, se you love to make rare- —"

e idea!"

d you should choose me be- I'm brave and noble——"

ıat!"

ave and noble enough to eat rarebits; and because I love——"

w, Mr. Porter!"

ell, I do love——"

Bachelor Girl started to rise.

do love to sit on a park bench isten to you talk!" finished the Man.

!" the Bachelor Girl looked a disappointed. "Let's go," she coldly, as she rose and shook out kirts.

hich way?" inquired the Mere standing in front of her.

"Which way do you want to go?" she asked generously.

"Oh, in the opposite direction," answered the Mere Man, absently.

"What?"

"I only wanted to see how it would feel——" he began.

"Don't!" cried the Bachelor Girl, quickly taking his arm and starting down the path. It's so much nicer just to be—to be——"

"Sweethearts?" suggested the Mere Man, trying to peer under her hat.

"Unmarried!" corrected the Bachelor Girl, stooping to pick up an autumn leaf.—New York Press.

RECIPES.

When you fry fish, and the fat gets boiling hot, before you put the fish in, sprinkle a little salt on the bottom of the pan. You may then turn the fish without breaking.

Let the fish remain in cold water, slightly salted, for an hour before cooking; place in dripping pan with a little hot water, and bake in a hot oven; just before it is done butter it well and let it brown; a small fish will bake in half an hour; it will take longer for a larger one.

Pure Baking Powder.

One pound pure cream of tatar, ½ pound baking soda, 1-4 pound cornstarch, 1-4 pound flour. Sift 7 or 8 times.

Ice Cream Candy.

Boil two pounds of granulated sugar, one cup of cold water, with one tablespoon of vinegar, without stirring, till brittle. Pour on buttered tins, and when nearly cold, pull rapidly till white and brittle.

How To Bake Sardines.

This little savory is seasonable at all times, as sardines are with us the year round. To make the dish you must bone as many of the fish as you require, first removing the skin; then make a little white sauce (about a quarter of a pint) and add to it a seasoning of salt, pepper, cayenne and a few drops of lemon juice; now add the sardines and put the mixture into scallop tins; cover each with fine breadcrumbs; put a few small pieces of butter on the top and bake for about ten minutes in a moderate oven.

To Blanch Green Beans.

Green beans should always be blanched. To do this drain them from the cold water and put them into water that is boiling rapidly, allowing a teaspoonful of salt to two quarts of water. Boil rapidly, with the cover partially off the saucepan, for twenty minutes. Turn into a colander and let cold water run upon them. They are now ready to be finished in any manner you like. The blanching can be done in the morning while the fire is good and the beans be finished for dinner at the proper time.

Spinach Cooked Without Water.

Fresh spinach when washed holds enough water for cooking. Put the spinach in a stewpan and on the fire; cover and cook for ten minutes. Press down and turn the spinach over several times during the cooking. At the end of ten minutes turn the spinach into a chopping bowl, and mince rather fine. Return to the stewpan and add the seasonings, allowing for half a peck of spinach two generous tablespoonfuls of butter and a teaspoonful of salt. Simmer ten minutes; or if very tender five minutes will be sufficient.

Spinach cooked in this manner will retain all its salts. It will be more laxative and the flavor stronger than when blanched (boiled in water). In young, tender spinach this is not objectionable, but when the overgrown vegetable is cooked in its own moisture the flavor is strong and somewhat acrid.

Green Beans Boiled With Pork.

Boil about a quarter of a pound of pork for five hours. Have the beans free from strings and cut about two inches long. Cook them with the pork until tender (about half an hour).

Or drain the water from the beans. Put the butter in a saucepan with one tablespoonful of flour. Stir over the fire until smooth and frothy, then add the beans and stir over the fire for five minutes. Draw back and add half a pint of water, meat stock, or milk. Simmer ten minutes. If liked, a teaspoonful of fine herbs may be added a few minutes before serving. It will take from forty-five to sixty minutes to boil the beans sufficiently.

QUIT.

Anticipating evils in the future.

Pretending, and be your real self.

Going round with a gloomy face.

Faulting, nagging and worrying.

Dreaming that you would be happier in some other place or circumstances.

Thinking that all the good chances and opportunities are gone by.

Carping and criticising. See the best rather than the worst in others.

Belittling those whom you envy because you feel that they are superior to yourself.

Dilating on your pains and aches and misfortunes to everyone who will listen to you.

Gazing idly into the future and dreaming about it instead of making the most of the present.

Longing for the good things that others have instead of going to work and earning them for yourself.

Looking for opportunities hundreds or thousands of miles away instead of right where you are.—Success.

Speculating as to what you would do in some one else's place, and do your best in your own.

SIMPLE CURES FOR SIMPLE ILLS.

Take raw egg immediately to drive a fish bone from the throat.

An excellent remedy for boils is one-fifth of a grain of sulphide of calcium pills, three or four times a day.

For constipation, headache or drowsiness take one teaspoonful of pure sulphate of soda in a tumbler of hot water an hour before breakfast every morning.

For a coated tongue, take a five-grain blue pill at night and a teaspoonful of Rochelle salts in half a glass of water before breakfast the next morning.

For red eyelids the following has been found excellent. Vinum opis, one drachm; zinc sulphate, eight grains; rose water, eight ounces. Have it compounded by your druggist and bathe several times daily.—Coleman's Rural.

When a man attributes his success to the taking advantage of an opportunity the opportunity is usually but another name for an easy mark.

Miss Smith—"I see that the legislature has passed a law prohibiting the women from wearing stuffed birds or feathers on their hats."

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204 Severance Building, Los Angeles, California

There is a crank down East who says a man ought to so love his work as to take his greatest delight in it; but he is not such a crank after all.

A good many men are strangers to their greatest strength.

The Produce Markets

Los Angeles Markets

LOS ANGELES, April 8, 1908.

Butter declined 2½ cents Monday morning and now stands at 45 for extra creamery. The receipts are very liberal, but the market remains firm.

Creamery ex per roll	.45
Firsts	.42½
Dairy	.24½
Cooking	.30
Eastern	.50
"Butterine"	.15@20

Cheese.

California Anchor	.18
Northern fresh	.14
Eastern singles	.20
Imported Swiss	.29@30
Tulare flats	.15@15½
Swiss	.20
Oregon	.18

Eggs and Poultry.

Eggs declined during the last days of last week, and recovered on Monday so that quotations are now as last week with market firm.

Eggs local candled	.18½@19
Eggs case count	.17
Northern candled	.18
Case count	.16½
Hens per lb	.15@16
Young roosters per lb	.15
Fryers	.22
Broilers per lb	.24@25
Roasters	.18
Old roosters	.8
Turkeys	.15
Geese	.13
Ducks	.15
Squabs	1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds	.6
Prime steers	.4½
Heifers	.4
Calves per lb	.5
Sheep ewes per head	.4.75
Lambs per head	.3.50
Wethers	.5.50

Potatoes.

Just at this time potatoes are very firm and receipts are light.

Highlands	.90@1.00
Early Rose	.1.70@2.25
Salinas	.1.25@1.50
Sweet potatoes per sack	.3.50@3.65
Sweets Northern	.3.00@3.25
Oregons	1.30
Idaho	1.25
White Rose	.1.25
Watsonvilles	.1.20
New potatoes by lb	.5

Onions.

Bermudas per crate	.3.00@3.25
Oregons	.4.25@4.50
Minnesota	.4.05@4.50
Garlic	.18
Ohio	.4.00]4.25
Colorado Red	.4.25@4.50
Nevadas	.4.25@4.50

Vegetables.

Artichoke per doz	.40@60
do Jerusalem box	.75
Asparagus per lb	.8@9
Beets per doz	.50
Bell peppers per lb	.25
Beans limas per lb	.10@12
Beans green	.12@15
Beans Yellow	.5@8
Brussels sprouts per lb	.12@13
Cabbage sack	.35@50
Cabbage red	.1.50
Celery per doz	.90
Chili peppers per doz	.18
Chives per doz	.1.25
Cucumbers per doz	.1.25@2.50
Caulliflower	.75@1.00
Carrots per doz	.30
Egg plant each	.30
Green onions doz bunches	.20@30
Hubbard squash per lb	.1@1½
Lettuce per crate	.1.00@1.25
Mushrooms per basket	.1.75
Peas sugar per lb	.3½
Parsley	.30
Parsnips	.35@40
Rhubarb per box	.1.50
Radishes per doz	.15@20
Salsify	.40@50
Spinach per doz	.17½
Turnips doz bunches	.40
Tomatoes per box	.1.25@2.00

Citrus Fruits.

Navels fy	.1.60@1.75
Navels ch	.1.25@1.50
Tangerines	.1.50
Culls	.40
Grapefruit seedless	.2.50@3.00
Grapefruit seedlings	.1.75@2.00
Lemons fancy	.1.25@1.50
Lemons choice	.1.00@1.25

Fresh Fruits.

Bellefleurs	.2.00@2.25
Baldwins	.1.50@1.75
Pippins 4-tier	.1.50@1.75
W W Pearmains	.2.00@2.30
Colorado Jonathans	.3.00
Cal Ben Davis	.1.75@2.00
Loquats per lb	.9@10
Dewberries	.15
Raspberries	.25
Strawberries	.5@8
Extra fancy	.15

Dried Fruits.

Apricots	.18@22
Evap apples fy per lb	.11@12
Figs loose	.7
Peaches	.11½@12
Pears	.16
Nectarines	.16
Prunes	.3½@5½

Beans Dried.

Limas per ctl	.5.00
Pink No. 1	.3.00
Lady Washington	.3.85@3.95
Small White	.3.75@3.85
Black Eyes	.4.50@5.00
Garvanzas	.5.50
Lentils	.10½

Nuts.

Almonds per lb	.17½
Pecans polished	.16@17
Peanuts Virgina	.8½
Peanuts California	.8½
Walnuts No 1 SS	.16
Walnuts No 1 H S	.14@15

Honey.

Extracted Water White	.7¼@7½
Comb W W	.11@15

Hay.

Price paid to producers f. o. b. Los Angeles are as follows:

Barley No 1	.14.50@15.50
Barley No. 2	.9.00@11.00
Alfalfa northern per ton	.12.50@13.50
Alfalfa local	.15.00@16.00
Plain oat No 1	.15.00@17.00
Wheat No. 1	.15.00@16.00
Wheat No. 2	.11.00@12.00

Grain.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl	.1.85
Wheat in 100-lb. sacks	.1.90
Barley	.1.50
Corn Eastern sacked	.1.80
White oats	.1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn	.1.85
Shorts	.1.70
Bran	.1.55
Oil cake meal	.2.50
Feed meal	.1.90
Rolled barley	.1.55

San Francisco Markets

Butter.

SAN FRANCISCO, April 7, 1908.

The butter market remains remarkably firm, so much so that an increase of one cent is noted for the past week. All stock is moving very freely and a satisfactory condition prevails.

California extras per lb	.22
California firsts	.20½
California seconds	.19
Fresh Packing stock	.18½
Fresh packing stock No 2	.18

Cheese.

California young American fy	.13½
California flats fy	.11½
Firsts	.11½
Eastern fy	.18
Oregon fancy	.13½

Eggs and Poultry.

Regarding the egg market and the effect on it by the combination of Sonoma county poultrymen, the Chronicle says: There was a marked scarcity of fresh extra eggs in the local market yesterday, with the result that buyers who were caught short bid keenly for all available lots and the price advanced to 20 cents a dozen, 3 cents better than Saturday's quotation. It is thought on the Exchange here that the Sonoma county poultry interests, who have lately developed considerable influence through pooling of stocks, have combined here to prevent any supplies from reaching local receivers. If this continues the price of eggs will undoubtedly advance even more materially than it did yesterday.

Fresh ranch eggs	.22
Eggs firsts per doz	.20½
Eggs second per doz	.19
Fresh packing stock	.18

On Monday 3 cars of Eastern poultry were offered. The promise is good for all kinds of poultry.

Hens per doz	.5.00@6.50
Hens extra	.7.00@8.00
Young roosters	.6.50@7.50
Old roosters	.4.00@4.75
Fryers per doz	.6.50@7.50
Broilers per doz	.4.50@6.50
Geese per pair	.2.00@2.50
Ducks young	.5.00@7.00
Turkeys per lb	.14@16
Pigeons	.1.00@1.35

Live Stock.

Steers No 1	.8½@9
Do second quality	.7½@8
No. 1 cows and heifers	.6½@7
Hogs 80 to 200 lbs	.6@6¼
Hogs 200 to 300 lbs	.5½5¾
Calves per lb	.5@5½
Lambs	.6@6½
Wethers No 1	.5½@6
Ewes No 1	.5@5½

Potatoes.

River Whites	.40@85
Oregon Burbanks	.85@1.10
Lompoes	.1.10@1.25
Early Rose	.1.25@1.35
River Reds	.1.35@1.40
Salinas Burbanks	.75@1.15
Sweets per crate	.2.50@3.00
New potatoes per lb	.2@3½

Vegetables.

Artichokes Jerusalem per box	.75
Asparagus per lb	.3@7
Celery per doz	.35@50
Cucumbers per doz	.1.00@1.50
Chili peppers per lb	.15@17½
Bell peppers per lb	.10@15
Beans Limas	.12@15
Egg plant per lb	.10@12½
Green peas per lb	.3@6
Squash per box	.50@1.25
Marrowfat squash per sack	.60@75
Mushrooms	.75@1.25
Hubbard squash per sack	.60@80
Rhubarb per box	.1.25@1.85
Tomatoes local	.1.25@1.75
String beans	.12½
Garlic	.15@20

Onions.

Oregon yellow	.3.50@4.00
Eastern Red	.3.00@3.50

Citrus Fruits.

Navels fy	.2.00@2.25
Navels ch	.1.75@2.00
Grapefruit seedless	.2.50@3.00
Grapefruit seedlings	.1.00@1.25
Lemons	.1.50@2.50
Limes	.6.00@6.50

Fresh Fruits.

Newtons	.1.65@2.00
Spitzenberg	.1.75@2.00
Pomegranates per box	.1.00@2.50
Strawberries per ½ crate	.1.25@1.75
Aligator pears	.1.75@2.00

Dried Fruits.

Apples (evap.)	.5½@6¾
Apricots per lb	.13@17½
Figs white	.2¼@3½
Nectarines	.10@13
Plums pitted	.12@15
Peaches	.7¾@9¾
Pears	.7½@11
Prunes 4-size bag basis	.2¾@3½

Beans Dried.

Limas	.4.60@4.70
Pink	.3.00@3.10
Small white	.3.40@3.55
Large white	.3.45@3.60
Lady Washington	.3.45@3.50
Black Eyes	.3.25@3.50
Red Kidneys	.3.20@3.40
Garvanzas	.4.00@4.25
Bayo	3.00@3.15
Horse beans	.2.25@2.40

Hops.

Hops per lb	.3½@6¾
Hops old fancy	.1@2

Nuts.

Nonpareil	.13@13½
Ne Plus Ultra	.1½@12
Walnuts No 1	.13@13½
Hardshells	.12@12½

Honey.

Clear white comb	.16@17
Amber	.12@15
Extracted	.7½@8
Beeswax No. 1 per lb	.26@27
Beeswax No. 2 per lb	.23@25

Hay.

Somers & Co. say: Crop conditions in most parts of the State are not at all promising at the moment, for rain is needed in almost every district. In our opinion it is too early to feel any apprehension, for past experience has shown us that wonders can be performed by quite late showers. We believe, therefore, that most districts can go to or three weeks yet without a crop failure. It is earnestly to be hoped that bountiful rains may be noted shortly, for the State's prosperity and incidentally the welfare of San Francisco will depend on the harvesting of the crop now growing.

Choice wheat hay	.15.00@16.50
Good wheat hay	.14.00@15.00
Other grades same	.11.00@14.00
Wheat & oat	.10.00@15.00
Tame oat	.10.00@14.50
Wild oat	.9.00@12.50
Stock hay	.7.50@@9.50
Alfalfa	.9.00@13.50
Straw per bale	.50@.90

Grain.

Wheat No 1	.1.57½1.60
Barley No 1	.1.37½@1.40

Corn large yellow
Oats white
Oats red

Feed Stuff.

Bran per ton
Feed cornmeal per ton
Cracked corn per ton
Rolled barley per ton
Oil cake meal per ton
Cocoanut cakes per ton
Middlings

Citrus Mark

LOS ANGELES, April
Oranges are surely holdi
own and, better, are incre
quotations A material inc
occured during the past weel
large shipments are being
nicely. From 175 to 200 cars
are going forward each
fruit is generally in fair
though now fully ripe. Most
iced. Some are pre-cooled
iced. These latter are carryi
and are received in the mark
ably. The good tone in the
extends to the auctions and g
are reported from them.

Lemons are no better and
will not be till warmer
weather.

Shipments.

Total shipments to date this
15,876 cars, of which 1881 are
To same date last year 12
which 1307 were lemons.

NEW YORK, April 6.—Twe
navels and three lemons sold.
very active and higher in
Weather clear and cool. A
NOON SALE—11 navels.
strong.

NAVELS—

Flamingo Cal C U
El Toro Cal C U
Topaz Cal Cit U
Amethyst Cal Cit U
Partridge Cal Cit U
Sunshine O Gr Cash Assn
Colonel O Gr C Assn
Iris D M Ft Co
Violet D M Ft Ex
Stag A C G Ft Ex
Pointer A C G Ft Ex
Winner Drew Ft Assn
Independent Gr Ft Co
Brooks Bryn Mawr O G Assn
Whittier W F Whittier
Mt. Harrison F L Sewell
Young America Pink & McK
Cerrito L V W Brown
Swastika L V W Brown
Golden Orchard Nnd Ft Co
Alta Cresta A H Ft Ex
Robusta A H Ft Ex
Golden Rule Riv Ft Ex
Gold Buckle R H Ft Ex
Lochinvar R H Ft Ex
Belt R H Ft Ex
Quail O K Ft Ex
Blue Globe Riv Ft Ex
Royal Knight R H Ft Ex
Butterfly Covina Ft Ex
Puritan S B Ft Ex
Cosmos S B Ft Ex
Standard Nat Or Co
Orchard Nat Or Co
Standard Nat Or Co
Standard Nat Or Co
Columbia Nat Or Co
La Verne M L Sparks
Lion Head I L Lyon & Sons
Tiger Head I L Lyon & Sons
Independent Grs Ft Co
Clover Red O G Assn
Crafton Red G O Assn
Golden Orchard Ind Ft Co
Gabriella Ind Ft Co
Citrus Belt Ind Ft Co
Conqueror Ind Ft Co
Criterion Penn Ft Co
Conqueror Ind Ft Co
Defender Altland Ft Co

BLOODS—box—

Silver Buckle E H Ft Assn
Iris D M Ft Ex
Jasmine D M Ft Ex
Bear (halves) O K KFt Ex
Iris (halves) D M Ft Ex
Blue Globe (halves) Riv Ft Ex
Golden Rule Riv Ft Ex
Violet D M Ft Ex
Blue Globe Riv Ft Ex
Quail (halves) O K Ft Ex
Violet (halves) D M Ft Ex

SEEDLINGS—

Defender Altland Ft Co

TANGERINES—

Mahalla L V W Brown
Golden Rule Riv Ft Ex
Blue Globe Riv Ft Ex
Orchard Nat O Co
Lion Head I L Lyon & Sons

LEMONS—

Fountain Speich & Morgan
Our Popular F H Speich
Independent Gr Ft Co
Excellent S Paula Cit Assn

VALENCIAS

DefenderAltland Ft Co
Del Monte

N, April 6.—Twenty cars sold.
our on track. Weather favor-
arket is doing better.

LS—

K Ft Ex	2.55
Q C Ft Ex Cor	2.60
S B Ft Ex High	2.50
Q C Ft Ex Cor	2.60
C Ft Ex Cor	1.15
F Ft Ex Pach	2.20
Nat O Co	2.70
Orchard Ind Ft Co	2.55
sta Gr Ft Co	2.45
B Ft Ex High	2.45
C Ft Ex Cor	2.45
Rule R F Ft Ex Riv	2.55
am R F Ft Ex Pach	2.35
lly R F Ft Ex Pach	1.75
t O G C Assn	2.65
ead J L Lyon & Sons	2.50
n Hawarden Cit Assn.	2.40
awarden Cit Assn	2.20

LINGS—Lucky Strike, H. &.
ld, $1.85; Tahquitz-Grove, $1.80.

DS—Elephant, O G Cash Assn,
ar (halves), O K F Ft Ex, $1.10;
alves), O K Ft Ex, $1.00.

ORANGES —halves—Antler,
& Nye, 70 cents.

EFRUIT—Antler, $2.60.

NS—W. Highland, Cleghorn
$2.15; Choice, $1.50; Golden
Rialto Orange Co., $1.85; Can-
B. Ft Ex., Yerkes Spur, $1.80;
B. Ft Ex., Yerkes Spur, $1.45.

OUIS, April 6.—Weather Cool.
steady on navels, weak on
Nine cars sold. Eleven on

ELS—

oy R H Ft Ex Red	2.35
n R Ft Ex Riv	2.15
s S B Ft Ex Yerkes	2.45
teer S A Ft Ex N Pom	2.45
e Doodle Highgrove Ft Ex.	2.30
nds Oranges R H Ft Ex Red	2.10
r S B Ft Ex High	2.40
S B Ft Ex Yerkes	2.35
ound S A Ft Ex N Pom	2.25

ERINES—halves—

one S B Ft Ex	1.30
teer	3.15

EDLINGS—Solano, $2.15; Niagara,
ffl ffl

MONS—Bridal Veil, $1.95; White
$1.70; Messina Lemons, $2.30.

CINNATI, April 6.—Weather
. Market steady. Seven cars
Florida Brights, $2.05 to $2.40;
ts, $2.30&2.45.

VELS—

hound S A Ft Ex Clare	2.40
Choice S T Ft Ex Glen	2.45
llo S A Ft Ex Clare	2.05
ce Flagler Ft Co	2.50

ILADELPHIA, April 6.—Six
ls, one seedling, one blood, four
d and two cars of lemons sold.
ther favorable. Market is strong-
500 Floridas sold. Market un-
ged.

AVELS—

ter A C G Ft Ex Lateen	2.28
al Knight R H Ft Ex Red	2.71
to Girl Gr Ft Co	2.54
ntain Spiech & Morgan	2.47

Cosmos S B Ft Ex Yerkes	2.60
Puritan S BFt Ex Rialto	2.75
Golden Orchard Ind Ft Co	2.51
Corona Queen Spence Ft Co	2.41
Solano Stewart Ft Co	2.21

LEMONS—

Greyhound S A Ft Ex S D	1.61
Forgetmenot T C tF Ex Porter.	1.70
Oak Leaf T C Ft Ex Porter	1.19
Full Value T C Ft Ex Porter	.90

BLOODS—

Golden Orchard Ind Ft Co	2.46
Corona Queen Spence Ft Co	2.29
Flamingo (halves) Cal Cit U	1.31
Slover Mt. halves	1.27

SEEDLINGS—

Mision Bells A B Chapman	2.25
Mission Memories A B Chapman.	2.21
Slover Mt	2.21

GRAPEFRUIT—

Solano Stewart Ft Co	1.31

thrax Cure, Milk Fever Outfits. See
. Weber Co., 555-557 S. Los Angeles
t, Los Angeles.

PITTSBURG, April 6.—Eighteen cars sold. Seventeen on track. Market is easier on account of the increased offering. Weather favorable.

NAVELS—

Violet D M Ft Ex Mon	2.35
Stag A C G Ft Ex Azusa	2.70
Hunter A C G Ft Ex Azusa	2.20
Riverside Oranges Riv Ft Ex Riv	2.10
Quail O K Ft Ex	2.50
Standard Nat O Co	2.40
Rountain Speich & Morgan	2.50
Highlander High Ft G Assn	2.65
Our Favorite Moul & Gre	2.40
Butterfly Cov Ft Ex Cov	2.10
Pointer A C G Ft Ex Azusa	2.35
Golden Rule Riv Ex Riv	2.45
Fountain Speich & Morgan	2.50
Grove Cor Lemon Co	2.50
Golden Flower Red G O Assn	2.55

SEEDLINGS—

Lucky Strike H & Fitzgerald	1.75

BLOODS—

Big Find	2.25
Lark O K Ft Ex	2.65

LEMONS—

Bonanza E B Leach Chula Vista.	1.00
Rescue	1.50
Solano	1.50

CLEVELAND, April 6.—Market is strong on lemons and bloods. Weather favorable. Ten cars sold. Seven on track.

NAVELS—

Butterfly Cov Ft Ex Cov	2.60
Golden Flower Red G O As	2.55
Stag A C G Ft Ex Glen	2.70
Pointer A C G Ft Ex Glen	2.35

SEEDLINGS—

Floral S B Ft Ex Col	2.15

LEMONS—

Trail S T Ft Ex High	2.30
Canyon S T Ft Ex High	1.75
Gold Buckle L H Ft Ex E High.	2.10
Lochinvar L H Ft Ex E High	2.40
Belt L H Ft Ex E High	1.20

BLOODS— ruby—

Tiger S B Ft Ex Colt	2.20
Floral S B Ft Ex Colt	2.10
Tiger (halves) S B Ft Ex Colt.	1.05
Floral (halves) S B tFEx Colt.	.90
Carrier S B Ft Ex High	2.30
Owl Head S B Ft Ex High	2.35
Hunter A C G Ft Ex Glen	2.35

NAVELS—

Niagara Stewart Ft Co	2.45
Silence Flagler Ft Co	2.25
Cry Baby Flagler Ft Co	2.15

POSSIBILITIES OF WALNUT CULTURE.

Continued from Page 423.

They need to be given a fair trial before we can fairly judge as to their productiveness. The method, which unfortunately is being used by some disseminators of grafted stock, of going into a seedling orchard and procuring scions from prunings or from a great number of seedling trees, without any or much regard to character of trees, procures only the benefit of perhaps a good root, as the top will vary in nearly every respect as much as seedling trees. The very thing for which one is working is in this way defeated.

Be Careful.

There should be more careful selection of scions from known trees, and especially if the trees be seedlings, should the scions from one tree be kept separate from another, as in no case is one seedling exactly like another. Of course, if one is taking scions from a grafted orchard where the trees are without fail of the same variety, then this does not apply so strongly. Nevertheless, in order to get the best results one hould be exceedingly careful in his selection of his stock and know something of its parentage.

See to Pollination.

Again, in the planting of an orchard it would undoubtedly be a good investment to set out at least two varieties for the sake of better pollination. In most orchards at the present time the staminate calkins come out and have nearly all fallen before the pistillate blossoms are out. If in the orchard there were planted a second variety where calkins would come out later, there would be a greater chance for pistillate blossoms to become pollinated.

There is but little doubt that there is a great reduction in the crop by non-pollination and the inter-planting of a second variety coming out later would increase the yield considerably.

The problem, however, which today concerns the walnut grower who has a seedling orchard is that of how to increase its productiveness, by either cultural methods or by top grafting or both. There arises then immediately the question of whether it is profitable and practical to graft over large trees and thereby increase production. Can an old seedling orchard be successfully top-grafted or not, and if so, why cannot each tree be made to bear one hundred pounds or more of walnuts. This phase of the problem involves the practicability of top working these old seedling trees to immune or resistant varieties. As the stock will in no wise influence the blight resistancy of the top that is put on it, the question then becomes one of degree of success in grafting or budding old trees.

Gradually Work Them Over.

Every walnut grower has in his orchard one or more trees that have been continuously good bearers, and trees of such desirability that he would be satisfied to have a whole orchard of that kind of trees. If he could successfully work over his poorer trees from year to year and still not lose much from decreased production, as he would take the non-paying trees first, the grafted ones would be coming into good bearing again in three or four years. In that way a man could gradually work his old trees and soon have a uniformly good producing orchard.

* * *

Methods of grafting are then treated by Prof. Ramsey and will later be given in the Cultivator.

SAYINGS OF JOSH BILLINGS.

To find the square root of a hog's nose, turn him into a garden patch.

To get wrong things out of a child's head—comb it often.

He who by farmin' would get rich,
Must plow, and sow, and dig, and sich,
Work hard all day, sleep hard at night,
Save every cent, and not get tight.

About the meanest critter there is now traveling around on the bosom of the earth is a bashful hypocrite.

There is only one good substitute for the endearments of a sister, and that is the endearments of some other fellow's sister.

The less a man knows, the more he will guess at, and guessing is nothing more than suspicion.

When I get thoroughly rich, the first thing I intend to do is to become respectable.

It is a statistical fact that the wicked work harder to reach hell than the righteous do to get to heaven.

To make a hoe cake, take a hoe and boil it into a thin jell, and then—let her cake.

If you want to get a sure crop and a big yield, sow wild oats.

Men mourn for what they have lost, women for what they haven't got.

Love is like the measles, we can't have it bad but once, and the later in life we have it, the tougher it goes with us.

There is nothing in this world that a man pays so high a price for, and gets so little of his money back, as he does for repentance.

NATURAL ABILITY.

At a party recently they were playing a game which consisted in everybody in the room making a face, and the one who made the worst face was awarded a prize. They all did their level best, and then a gentleman went up to one of the ladies and said:

"Well, madam, I think you have won the prize."

"Oh," she said, "I wasn't playing.
—Philadelphia Ledger.

California Irrigated lands in a fine fruit section is advertised by the Irrigated Land Co., of California, 505 J St., Sacramento. A letter to this company will bring description matter, which will be of value to the homeseeker.

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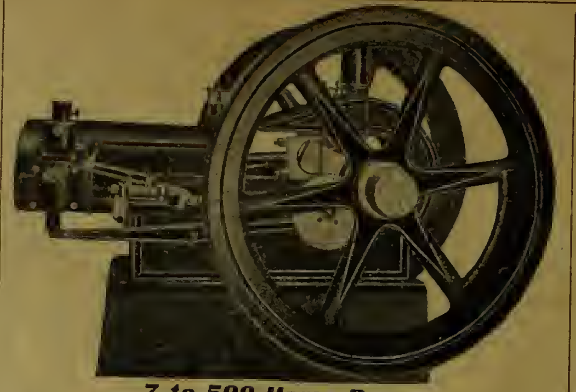
Western

Built In the West **Best** For the West

FACTORY AT YOUR DOOR

LONGEST LIFE *FEWEST PARTS*
LEAST FUEL *ALWAYS GOES*



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Irrigation Plants Designed Constructed Install

Cost of Water Guaranteed

Nearly 1000 in use in Alaska, Oregon, Idaho, Nevada, Arizona, Mexico, California, Hawaiian Islands.

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Western Gas Engine Co.

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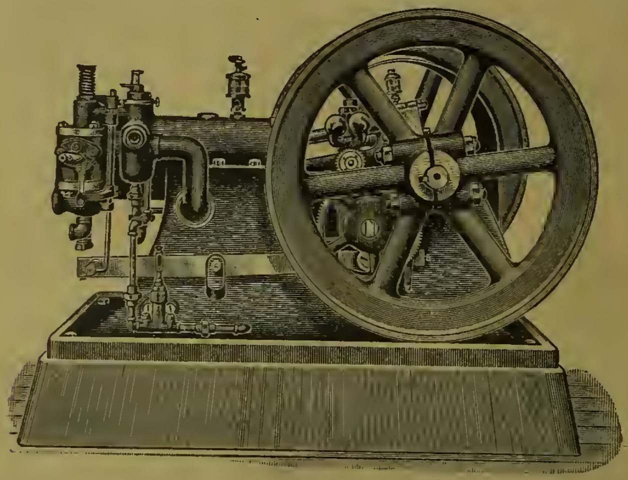
Send for Catalogue.

Alamo Engines



Gas Engines Like automobiles have been greatly improved in the last two or three years. When buying an engine don't buy an antiquated model. Buy an engine that embodies all the latest improvements. THE ALAMO is a modern distillate engine.

SEE OTHERS, BUT DON'T BUY UNTIL YOU'VE SEEN AN ALAMO. DROP US A CARD

Norton Engine & Power Company
201-203 No. Los Angeles St. *Los Angeles, Cal.*

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no valves or plungers t
or get out of order, no
consequently no noise or
ing of teeth.

Compact, durable,
primed and ready to
constant flow, hence
capacity of well.

This type of pump is
ing the place of Verti
Deep well Plunger an
lor Pumps.

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Particular. We make
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makes it possible
make prompt delive

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and estimates.

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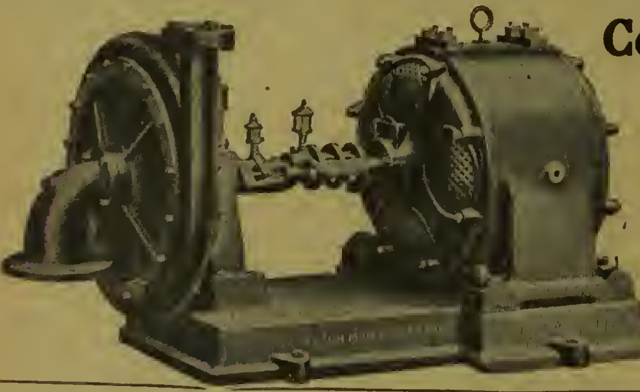
553 S. Los Angeles St. Los A



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Direct Connected or Belt Driven
Highest obtainable efficiency

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SAN FRANCISCO, CAL.
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ing. All sizes from 2 to 100 H. P. S
able, warranted, are giving fine sati
purchasers on the Coast. Prices and c
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Machinery Compan

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San Francisco, Cal.

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BRANCHES — Sacramento, Visalia, Porterv
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CCC Gas Engine Cylinder Oil

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IRRIGATION

California Cultivator

Published Weekly
One Dollar a Year

Angeles April 16, 1908 San Francisco

The Temples of the West

TEMPLES of the East arise upon her ancient shores,
hunger, gaunt and haggard, lies beside their open doors.
bells of even call to prayer when torrid day is done,
upers pray for regions where death comes not with the sun.

nples of the Eastland gleam with gilded peak and spire
ne polished structures seem great monuments of fire.
y who madly stretch to Buddha their supplicating hands
naked footprints, done in blood, imprinted on the sands.

tisans have builded well the temples of the East
ign, design and capital their mystery increased.
ching doorways are engraved with names of gods divine,
et the god-forgotten slaved to rear the godly shrine.

mples of the West look down upon the azure seas;
and weary famine town looks sadly up to these.
led dome reflects the sun on eyes with sunlight blind,
ks from sight, when day is done, while death steals up behind.

mples of the Westland gleam as gleam the Eastern spires
ar the colors of a dream, the sunset's tender fires.
lt upon their shining towers is like the rainbow's glow;
nges with the changing hours, while sunsets come and go.

And never in the Orient such pillars rise as these;
Such beauties never there are blent in wall and roof and frieze—
For never by the ancient shore where gilt pagodas rise
Upon emblazoned temples pour such lights of paradise.

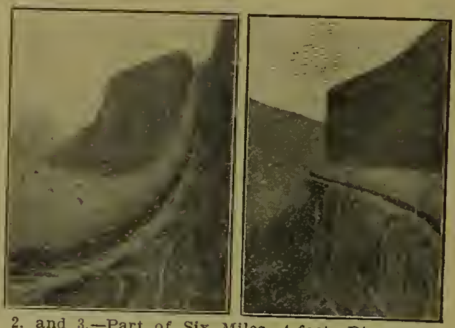
The temples of the Westland lift their pillars to the sky
While ships of vapor slowly drift in stately splendor by.
The temples of the Westland rise from out the Westland soil,
Reared not by skill of weeping eyes or hopeless hands of toil.

O, temples of the East, your gods much tribute have required—
The birth and life and death of clods, to rear you many-spired.
The temples of the West were made by neither toil nor pelf—
The God who dwells within their shade has builded them Himself.

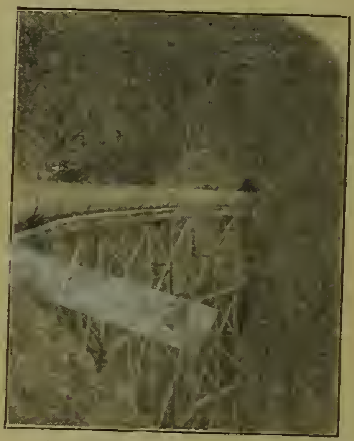
Ring out, you bells of temples East; you call me less than these
That spread their sweet communion feast beneath the Westward trees.
Ring forth upon the sultry air when dying day is dim;
I hear another call to prayer—the forest's mighty hymn.

I stand before an open door, a temple in the West,
I hear the music on the shore of waves that sink to rest.
Above me mount the Westland firs; their incense rises pure.
O gilded Eastward sepulchers, my soul you cannot lure.

1.—An 8-foot Diameter Continuous Stave Pipe Carrying Water for Irrigation and Power.



2. and 3.—Part of Six Miles 4-foot Diameter Stave Pipe Supplying Water for Irrigation and Power.



4.—View of 4-foot Diameter Stave Pipe Carrying Water for Irrigation and Hydro Electric Power Plant.

5.—A line of 14-inch Machine Banded Stave Pipe Carrying City Water Supply.

6.—Machine Banded Stave Pipe for City Water Works.

7.—Part of Twelve Miles Stave Pipe Carrying Water for City Supply, showing 18-foot joint tapering from 36 inches to 18 inches.

8.—Showing Machine Banded Stave Pipe 2-foot Diameter being installed for City Water Works and Irrigation. Part of ten mile system.

9.—Did you ever look into Wood Pipe? (6-foot Diameter.)

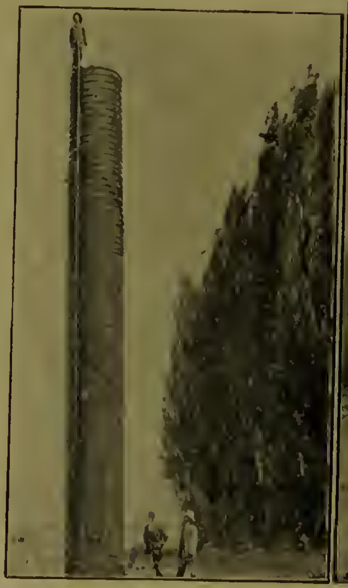
WOOD PIPE

FOR

City
Water Works

Irrigation
Systems

Mining and
Power Plants



10.—A 5-foot Diameter Wood Stave Stand Pipe, 46-feet high.

11.—A carload of 18-inch Machine Banded Stave for Irrigation and City Water Supply.

12.—A Suspended 6-inch Wood Pipe Carrying over Stream for Irrigation and Domestic

13.—Wood Pipe with Thick Shell used for Stea Casing. Loaded on Lighter Alongside our O Factory for Shipment to Seattle.

14.—A Line of Machine Banded Pipe Defying E trolysis and Alkali Where Iron Pipe Failed.

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alifornia Cultivator

X—No. 16 Los Angeles, California, Thursday, April 16, 1908 Subscription $1 a Year

igation in the Sacramento Valley

Look at Northern Conditions by Mr. John Isaac of Sacramento Ditches Built Years Ago for Miners' are Proving Far More Valuable Today for Conducting Irrigation Water

northern counties of California irriga-
not received the attention that it has
l further south. There is a much
nfall, and the land, as a rule, is reten-
sture and most crops, at least such as
or here, will grow without irrigation.
egetable and summer crops irrigation
to to some extent. In Siskiyou coun-
rigation is done, but it is not so gen-
the counties further south, and as we
thward we find that irrigation becomes
more popular as it becomes more and
cessity. At the present time, however,
some large irrigation enterprises un-
the principal one being the Klamath
ch diverts the water of the Klamath
o a large area of hitherto arid
Siskiyou and will bring a vast
on under cultivation.

asta.

are a number of irrigation
Shasta. but none of any great
e. Shasta is a well watered
nd there are opportunities for
evelopment which would put
y the whole county under cul-
Irrigation is practiced here
siderable extent in the orchards
yards and in the growing of
crops.

itches Used.

the counties of the Sacramento
nd in the foothill counties, irri-
s resorted to for the production
ner crops and fruits. In the
counties very many of the old
ditches which were taken out
early hydraulic mining days
een converted into irrigation
and the water is worth more
r agricultural purposes than it
mining when the ditches were
ilt.

et Deep.

one great enterprise looking to
erting water for irrigating is the
Canal, which takes its water
he Sacramento river near the
n boundary of Glenn county.
designed to carry a body of
ix feet in depth. It is 96 feet
n the levee centers, 84 feet wide
water surface and 60 feet wide
bottom with a capacity of 750 cubic feet
cond or 37,500 miners' inches. The canal
esigned to be 60 miles in length and to ir-
a strip of territory averaging six to seven
in width. The country aligning this canal
irst organized into an irrigation district
the Wright law, but the project has had
t its way through the courts and has met
so much opposition from some of the
est property owners, that it is not yet fin-
New life has been injected into it re-
, however, and it will probably soon be
d to completion.

ind Mill.

shallow rooting crops very much irrigation
e by means of wells and windmills. This
is especially noticeable in the strawberry section around Florin, in Sacramento county, where a perfect forest of windmills may be seen at work during the fruiting season. In this case the soil water is near the surface, the lift is not heavy and the wind furnishes ample power for the work.

Use the Power.

Very many of our farmers and fruit growers who can find water at shallow depths on their land have installed electric, steam or gasoline plants. One of the most perfect of these is owned by Russ D. Stephens, who has a large fruit ranch in the American river. He has a powerful dynamo driven by electricity from Folsome and is enabled by its aid to flood his entire tract in a short time.

Courtesy Gridley Herald.

A LARGE ORANGE GROVE NEAR GRIDLEY, SACRAMENTO VALLEY.

In San Joaquin.

As we travel south irrigation becomes more prominent and important and in San Joaquin county there are several extensive systems. San Joaquin is one of the best watered counties in the State, having three rivers of considerable size which intersect the county, the San Joaquin from the south to north, and the Mokelumne and the Calaveras from east to west. San Joaquin is the one county of the State in which nearly every acre of its territory is practically arable and most of it is under some system of irrigation except such as is naturally damp, and there is much of this class.

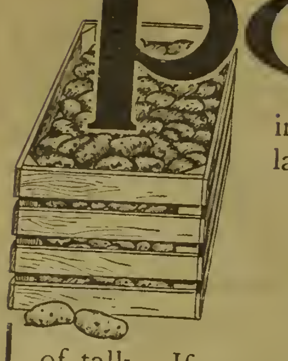
Opposition to Irrigation.

The counties of the Sacramento valley have been slow in ranging themselves in the irrigated class and many of the greater enterprises intended to develop the country have met with opposition, but with the influx of population and the consequent increased price of land, the necessity of the artificial application of water is impressing itself upon the people. For very many years after the settlement of this State the land of the Sacramento valley was valued only for its production of cereal crops. But these, by continuous cropping, became each year less and less profitable until wheat growing ceased to pay. So long as there was money in wheat, however, the great wheat farmers stood out strongly against settlement and the subdivision of the land. This, of course, meant opposition to irrigation enterprises also. But as wheat growing has ceased to pay a change has come over that section and irrigation and small farms are now the rule and are growing in popularity. With population comes increased irrigation with the conservation of the mountain waters, and it is only a question of a few years before the whole of the Sacramento valley, or at least all that is susceptible to cultivation, will be under irrigation.

Give us a Balanced Ration.

Already surveys have been made of the principal watersheds and reservoir sites located, looking to the conservation of the winter rainfall for summer use, and the possibilities in this direction are unlimited. In the mountains along all the tributaries of our great river there are num-

Continued on Page 450.



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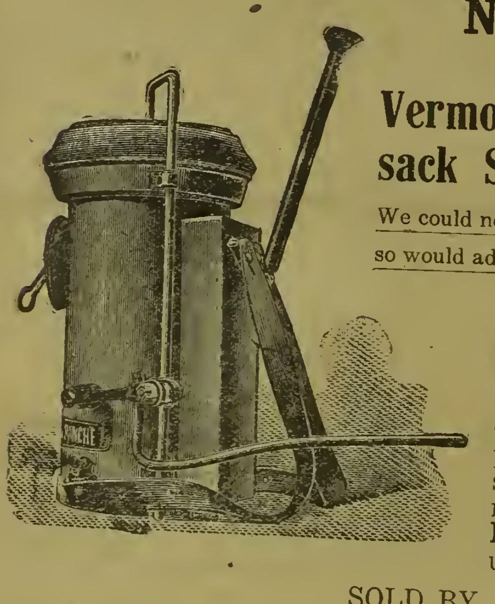

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We could not supply the demand last season, so would advise you to place your orders now

The most satisfactory dust sprayer made. Easy to carry—easy to work—outlasts all others—no getting out of order—makes sulphuring **EASY WORK** and saves sulphur. Recommended by users as the **MOST** effective sprayer used for the purpose.

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Having about six thousand Walnut trees that have to be moved on account of close of lease, I will make special prices on them for the next thirty days. These trees are two and three-year-old Santa Barbara soft shell variety, stocky and well rooted, running from four to ten feet in height. Seed selected from one of the best orchards in Orange county. A rare opportunity to get good trees at right prices.

Geo. B. WARNER, Nurseryman
Sunset Phone Red 92 Santa Ana, Cal.

Write for Catalogue

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When writing advertisers, mention Cultivator.

Deciduous Fruit Cult

IRRIGATION OF DECIDUOUS TREES.

IN THE rainy sections of California, irrigation of deciduous fruits was long looked upon as not only useless but injurious. It was thought that it could not be practiced without producing a watery and tasteless article that would not hold up in shipping and would be inferior for canning or drying purposes. This idea is fast giving away to a more sensible way of considering the subject. When the trees are situated on naturally moist land, irrigation is in most cases of little use and perhaps actual harm.

Where the moisture is liable to become deficient before the crops is matured, irrigation at the proper time means the difference between profit and loss. There are many orchards of deciduous fruit trees that are on soils that, on account of peculiar formation, grow good trees but, when bearing time comes, the fruit is undersized. Water applied to such orchards at the time the fruit is growing the fastest, just before the pit hardens, will carry the fruit to a larger size and improve the quality.

Fruit that is ripened with a deficiency of moisture cannot convert the starch into sugar properly because the natural development is interfered with. Should water be supplied soon before the fruit ripens, there is sure to be a loss in quality as the result will be soft fruit and a low amount of sugar because the process of reversion of starch to sugar will not have sufficient time in which to work.

Irrigation must be long enough before maturity to allow normal adjustment of all the functions or an unbalanced result will follow. Just at what period in the development of the different kinds of fruit or any one of them cannot at this time be definitely given. Experimentation along this line has not been carried on, but no doubt the growing of deciduous fruits under irrigation will some time be as accurately worked out as some of the problems in citrus culture are now. There is one thing certain and that is, all fruits whether citrus, deciduous or small fruits, are grown to a closer state of perfection when the physical conditions of the soil are kept in the highest state of perfection. Deciduous fruits have one advantage over citrus in irrigation. They do not require it so often because they are so much deeper rooted and they have a larger surface from which to draw the moisture. However, the irrigations given deciduous trees must be much longer in duration than with citrus because of their deep rooting.

MILLIONAIRE PRICES FOR FRUIT.

Edward Berwick of Pacific Grove sends the Cultivator clippings from an English paper regarding fruit in London markets, and from prices quoted we imagine laboring people buy but little. Also they show that California fruits forwarded across the water do not have the full control, and still worse is up against a vast importation from other parts of the world, which is not easy competition. From the paper we quote:

This is essentially the time of the year for the gratification of epicures with exclusive and expensive tastes; those to whom a cheap and seasonable form of dessert is positively distasteful, and who long for the proverbial "out-of-season" del within reach of the mu such—and there are many and of ours—the well-k universally accepted theory and vegetables are, as a g at their best when ple cheap, has no significance; fact of any particular kin being largely in evidence is rent to its chance of a amongst the luxuriously in indulge in strawberries in July would be an unpardon cism, but that these should dessert table whenever pos January until May is almo "de rigueur" as the evening the diners.

At the present time there opportunity of providing a choice and expensive frui though much of it must in nary way be characterized season," the flavor is n excellent. There was a ti anything in the nature of sonable delicacy was will cepted and appreciated, q pective of its palate-pleasing ties; the mere fact that rarity was sufficient to en ing eagerly purchased. T affairs no longer exists. sumers of all classes hav critical, especially those wh is for choice varieties. Gr all parts of the world have cognizant of this fact, an striven to place on the mar of excellent quality at all the year, with the result t in the winter months certa associated with the summ are obtainable in perfec condition.

Quality Counts.

Nothing is more fatal the caterer for the highe exclusive trade than to fal of the mark in quality. T stantly illustrated by the fected in Covent Garden, highest grades of produce a realize "fancy" prices, but t a shade below are almost u The explanation is simple, a that there is no intermedia between that accustomed to the ordinary fruits as they a their natural rotation and t ious and wealthy classes r who will not tolerate anyth of perfection.

Fabulous.

A few illustrations are topi seasonable. During the pres the best samples of English (Muscat of Alexandria) have as much as 20s per pound wh undoubtedly a high price, w less attractive bunches hav valued at about half that pri the latter figure is one at w difficult to find a large p public, yet it is not indicati high-water mark of excel Muscats at the moment. T gro er of these grapes has placed on market since September la t thi tons of this one variety, and it is teresting to compare the value the same article at different peri of the year. During September a October the average price of Muscat of Alexandria was 1s 2s per pound, as compared w 10s and 20s at the time of wr ing. English growers have eeded in sending white o market at all times of , but are endeavoring to t is a matter of comparative y in the case of black ommencing with the Black and following with the and Gros-Colmar, to main- erennial supply, which pre- e prices from attaining the lly high figure reached in of Muscats when the crop is exhausted.

use strawberries have al- ade their appearance, and, of must be reckoned in the of costly luxuries. Here illustrated the absolute futil- oducing anything but the first of fruit—for strawberries in or February are as "out of as it is possible to be. the best and brightest speci- ve been sold at 2s 6d to 3s 6d ce (wholesale,) inferior and tive lots have failed com- to attract purchasers.

ne Colonies.

supplies from Cape Colony me to the fore very promi- especially by way of provid- oice fruits unobtainable at- from our own hothouses. include peaches, nectarines, and plums. Of course, many e are far from perfect, and ently have to be disposed of es which prove unremunera- the growers, who express bit- appointment at the ill-success ng their efforts; and they are re inclined to lament when re informed of some of the rices realized in London for l fruit. It must be borne in however, that high prices are e rule, but the exception, and ly be obtained when the fruit erfect quality and in short sup- he average price of a con- nt is not usually such as to h anyone—except the grower.

s at 35 Cents Each.

best and largest of the Cape s are being retailed at 1s 3 6d each; nectarines are about al value, whilst the handsom- ms are realizing 6s to 8s per All of these, consequently, within the scope of this article g with fruits suitable to per- of exclusive tastes. The plums ell worth atention. They are all Japanese varieties, and been obtained by crossing and lizing with other kinds of Thus we have a plum of the color and shape of a nectarine, the apple plum; there is also er, the Chalcott, a very fine men, which closely resembles ectarine. The Burbank plum is d after Luther Burbank, an ican who was the first to try crossing of plums with other . A South African plum that be noticed is the Satsuma, or vine plum, so called on account rich red internal, as well as ex- l color. It is shaped like a l heart, is, deliciously flavored is altogether attractive.

* * *

is list would be incomplete out allusion to custard apples at ach. Many searchers after new pleasing flavors have been dis- inted upon tasting for the first the Maderia custard apple; but may probably be acounted for he fact that the fruit was not e ripe at the time. It is most rtant that a custard apple should be soft to the touch, otherwise what should be a rich and luscious flavor will compare unfavorably with that of a raw turnip.

OLIVE NOTES.

It is quite generaly believed that olives should be planted in alternating rows of different varieties to promote cross pollination and thereby increase the yield. This theory is somewhat shaken for the reason that many isolated trees are heavy bearers some seasons and the same varieties when grown in close proximity with other varieties are apparently not benefited thereby.

Climatic conditions have, we think, more to do with the setting of the olive crop than pollination. The olive bloom is very sensitive to cold winds and rain. In a collection of fifty or more varieties not one set a full crop on the side exposed to the cold winds which blow at the time the olives were in bloom. The sides of the trees away from the wind always produced some olives and always by far the larger amount.

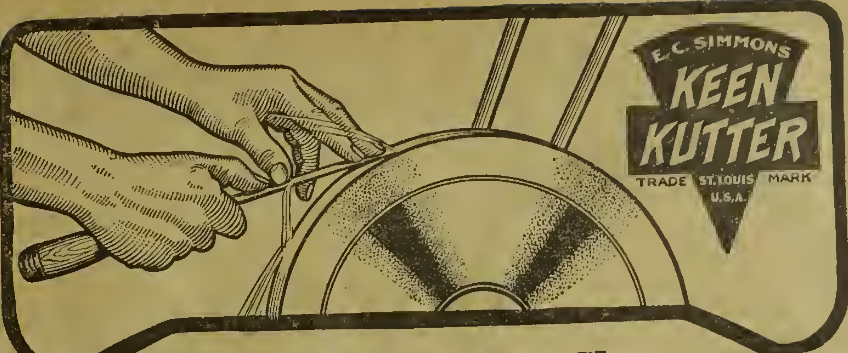
Many varieties of olives always produce some infertile fruit even when surrounded by several varieties that bloom at the same time. Pendulina, for instance, always has a large amount of infertile olives under these conditions. In certain parts of the San Joaquin and Sacramento valleys the Mission olive, for instance, is a regular bearer even when grown alone and when it is handled properly.

We do not disclaim any benefit from cross pollination, but claim that adaptability of varieties to climate is of more importance, and when most advantageously carried out is, in the case with olives, the key to the greatest success.

It is often desirable to graft trees to different varieties of olives, especially so when tested trees do not come up to the best in productiveness or quality. It does not matter very much which season of the year the grafting is done as long as the trees are growing, the weather is not too hot or the season too late in the fall. We have seen grafts put into old trees in July, which gave a good stand and entire satisfaction. The best size for scions is about the size of a lead pencil with at least two sets of buds above the point of insertion at the stump. Twig buds should be used. These are those which have made a growth of a half inch or perhaps a little more with leaves partly developed. The leaves should be clipped in two to reduce evaporation and the consequent draining of the sap from the scion before it can establish circulation of sap from the stump.

Next to the grape, the olive is, perhaps, the least difficult to graft successfully. It is not uncommon for grafts to grow without waxing or wrapping of any kind. This part of the operation should not be neglected, however. Waxing with cloth spread over the cuts in the bark of the stumps and waxed again will insure a good stand if the mechanical part is neatly done with the inner barks of scion and stock matching.

The large varieties of olives are very attractive but are not suited to the manufacturing of ripe pickles, owing to the difficulty in extracting the bitterness. This is particularly true of Ascolano and Sevillano. They should be utilized in making Queen olives which are made from the largest varieties while still green. For general use in making ripe pickles and oil, the Mission olive is not surpassed by any other variety. It bears and matures to perfection in certain parts of the Sacramento and San Joaquin valleys. In certain parts of Southern California it bears well and produces a good pickle and is as good as any for oil. Sevillano and Ascolano are of little value in this territory and, with few exceptional years, bear little or nothing even when they bloom well and are surrounded with other varieties that bloom at the same time.—J. W. Mills.



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Tools for use in the home or on the farm must have lasting edges and fine temper, for they are called upon to do all kinds of work and do it well.

The most satisfactory tools for the home or farm—tools that seldom need grinding, tools whose adjustments are right and stay right—are

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Keen Kutter Tools have been sold for nearly 40 years under this mark and motto:

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We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

Write us.

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TREE TANGLEFOOT

A Sticky Preparation Applied Directly to the Bark of the Trees

Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm Wherever the Gypsy or Brown-tail Moths, Tussock Moths fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials.

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Manufacturers of Tanglefoot Fly Paper
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Fruit Trees

Thousands of dollars saved by farmers by patronizing us. 50,000 Lob Ingir Smyrna Fig trees, 4 to 6 ft. in lots of 100 at $12.50; 500 and up at $100.00 per 1000.

We won the Gold Medal at the Lewis & Clark Exposition. This is the world famed Fig of commerce.

We have a large stock of Bartlett Pears, Royal Apricots, Orange and Lemon trees, as well as other nursery stock.

Bed rock prices. Send in list of wants. Address

Maywood Colony Nursery, Corning, Cal.
W. Herbert Samson, Prop.

100 Pounds of Grapes to the Vine

Raised by Ex-Postmaster Rush Stevens of Sacramento on his ranch with

Tom Lewis' Fertilizer

My Fertilizer is lower in price than other fertilizers and guaranteed to give results. I have hundreds of testimonials. Send for circular and prices.

Tom Lewis, 1916-1918 10th St., Sacramento, Cal.

Farmers and Stock Raisers

Prepare for the uncertainties of this life.

Get your savings invested so that they will yield a steady income to care for you in old age or to care for your wife and children in case of death. Do not leave your affairs in such shape that the lawyers will get the cash and your wife the leavings.

Carefully selected First Mortgages and High-grade Bonds of old companies, are the best investments for the man looking for an assured income.

Write for particulars.

Our customers interests are of first importance to us.

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Gold Medal Citrus Trees

Are fully described in our treatise of Citrus Culture, which is a trifle the best thing of its kind ever published. Contains about 50,000 words and 100 illustrations telling about oranges and lemons from the seed bed to the bearing orchard. Price 25 cents. Remember we are the largest producers of Citrus Trees in the world and stand ready to serve you with the finest nursery stock that can be grown. Correspondence invited.

San Dimas Citrus Nurseries
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Ready for delivery a first-class stock of Valencias, Washington Navels, Eureka Lemons and Marsh Seedless Grapefruit. . .˙. .˙.

Pollard Bros.
ALHAMBRA, CAL.

When writing advertisers, mention Cultivator.

With the Citrus Growers

Written especially for the California Cultivator.

BY J. W. MILLS, RIVERSIDE.

J. W. Mills needs no introduction, but we may at least remark that the long and continuous work given to the State Experiment Station work will soon terminate. Mr. Mills will use his knowledge gained from these years of service to his own advantage hereafter. He expects to leave the Riverside citrus station within the next few months and enter upon the work of his own ranch near Marysville. This will not terminate Mr. Mills' connection with the Cultivator.—Ed.

IRRIGATION OF CITRUS ORCHARDS.

THE experienced orange and lemon grower can tell us how to irrigate his grove better than we or any one else can, for the reason that one must know his land and learn how to irrigate it by actual experience. There are very few plots of land that are so uniform in quality that they can be irrigated to the best possible advantage when the whole is treated alike.

How Often.

A novice in orange growing asked us recently how often he should irrigate his five-year-old grove which is on a light, sandy soil. This was a question we could not answer as we were not acquainted with the soil as deep down as would be necessary in figuring on the influence of the subsoil or irrigation. When the subsoil is heavy and water will penetrate through it slowly, irrigations should be less frequent than when the subsoil is a sandy or gravely nature. These two conditions are at times quite common in the same orchard and when the same number of irrigations are given during a season, there will soon be a great difference in the size and vigor of the trees on the two different kinds of soil. The condition of the soil previous to planting the grove makes a vast difference as does also the subsequent care aside from the mere cultivation and irrigation.

At Pomona we have in mind a small orange grove that was planted on land that had grown prune trees for ten years but had always produced a heavy crop of vegetation, principally legumes, between the trees, this crop having been plowed under every spring. The orange tres were planted in July and at that time were thoroughly irrigated, having been given water several times between then and winter. During the rainy season the grove was kept well cultivated after each rain to conserve the moisture. With cultivation every month during the following summer, the trees made a luxuriant growth without any artificial irrigation.

The following season they received but one irrigation and bore some fruit. After this time the roots had reached more than half way across the spaces between the trees and there was a heavy draught on the soil moisture so that more frequent irrigations were necessary.

Courtesy Gridley Herald.

A WELL LOADED ORANGE TREE AT BIGGS, BUTTE CO.

The Tree Has Habits.

Right here is where an inexperienced person is liable to make a mistake. While the trees are young and the soil is not entirely taken up by the root system, there is a constant supply of new moisture laden soil for the roots to push out into. When this soil is entirely taken up by the roots, applications of water must be given to supply the demand. There is a great difference in the requirements of a grove as regards irrigation, due to the early treatment. When a grove has been irrigated more frequently than is necessary, it will continue to require more frequent irrigations than if it had received less frequent aplications when young. There is a striking illustration of this in a ten-acre grove near Arlington Heights in Riverside. This grove has produced magnificent crops eight or ten years with only two irrigations during many seasons. Adjoining groves on the same kind of land have always required more frequent irrigations. So it is that different soils and different treatments of the same soils show great differences in their requirements.

MICA Axle Grease

Helps the horses. Saves the wagon. Pays the teamster.

Mica Axle Grease has a long wearing quality, which makes it the most economical of a lubricants. Especial adapted to heavy wag and hard teaming. Ask y dealer for Mica Axle Gr

STANDARD OIL COMPANY
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Eureka Lemon
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Orange Trees
Eucalyptus Trees: Globulus, trata, Rudis and Tereticornis
Loquat and Pepper Trees
Phoenix Canariensis and Chamaerops Excelsa Pa
Roses, Etc.
Write Us for Quotations
COVINA NURSERIES
COVINA, CAL.

For Sale

A few thousand **Eurek Lemons** and **Seedles Grape Fruit Trees.** Highland grown. No scale.

H. H. LINVILLE
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ORANGE SEED-BE TREES

One-year-old sweet orange sour orange seedlings. Get yo order in early. Now is a g time to plant.

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F. H. DISBROW, Proprietor, R. F. D. No
PASADENA, CAL.
Phones: Home, 2520 Main,

Five Thousand Lemon Tre
Five Thousand Orange Tres

The finest lot of 2 year old ***Placentia Perf Walnut Trees*** ever offered. ***Berry B*** all kinds.

Magnolia Nursery, Whittier, C.

Utah alfalfa hay is selling at $ p ton.

at the Growing Season.

trees have three distinct
periods during each season
important. that sufficient
be supplied during all the
season, which means at all
enable the trees to take ad-
of the three periods when
ke these rapid growths. If
ιot done, the trees lose part
legitimate growth, reducing
acity just that much. These
ferences do not appear to
to much but they count in
The gain that is made over
of water and care is net.
ovice is sometimes contented
noderate growth and is led to
ze on the use of water while
aining his trees to root deep-
trics to strike the minimum
that they can thrive on and
tly overdoes the work on the
side. Practice shows, how-
s cited above, that an orange
n be influenced by careful
nt, so that it will continue to
nd produce well on less water
ıen started with an excess be-
hat it really needs. The best
always follow a uniform condi-
hat is, when a grove from the
is first planted, is so managed
e soil is kept in the best possi-
dition at all times. When the
g of green fertilizer is contem-
provision should be made for
pie supply of water for both
es and the green crop, for or-
y, more irrigation water is
under these conditions, but
ysical condition is so much im-
that less water is required
fter.

quite commonly supposed that
few irrigations that send the
deeply below the root system,
ne root system will be drawn
deeply into the soil and as a
ience better soil conditions
maintained and a great saving
realized. This is true to a
gree, than is commonly sup-
by the novice.

xample.

le the Pomona Experiment
n was being conducted, the de-
nent of the orange root system
iven a thorough trial along this
The trees were grown on a
sandy loam that was almost
m to a depth of not less than
n feet. The trees were irrigat-
that the water penetrated to a
of not less than ten feet at
application.

n the trees had been under this
nent about ten years, the root
ms of a number were exposed
t was found that with the ex-
n of sour stock, 90 per cent of
oots were less than three feet
the surface and the great bulk
se were less than two feet and
there up to ten inches from the
ce. This experiment was sup-
nted by investigations in outly-
groves and the same condition
found to exist. This goes to show
the great bulk of the soil mois-
that supplies our orange trees,
be within four feet of the sur-
The soil for several feet below
should be well supplied for the
n that it must not be allowed to
from the surface by a capillary
n, but the surface soil must
from the under soil in this man-
in order to furnish a uniform sup-

ange groves situated on land that
areas of gravely subsoil, should
an auxiliary water supply to
these places at closer intervals
is the balance of the grove. This
here the property is under an irri-
on company. Such soil condi-
s are quite common along the
ly mesas in Southern California.

row System.

he almost universally accepted
hod of irrigation in the citrus
ve is by the furrow system. This
sometimes supplemented by a
k system and flooding in the fall
n the rainy season is late or
re is a light precipitation. Under
best management, water is run in
p furrows and as soon after the
er is turned off as possible, a
oother or a scantling placed cross-
e under a harrow is dragged
gthwise with the furrows so as to
er up the moist soil in the bot-
s. This stops evaporation and as
n as a cultivator can be used, the
d is thoroughly broken up and
verized.—J. W. Mills.

A COMPLETE PACKING HOUSE.

One of the best equipped and most complete orange packing houses in this State, which also means in the world, is that of the Pomona Fruit Growers' Exchange at Pomona. It is not only a packing house with graders, brushers, washers, and all other appliances needed in packing the fruit, but has a complete pre-cooling plant in addition.

The main floor of the house is 120 x177 feet, and 60 packers may work at one time. The capacity of the house is 10 cars of fruit daily. The doors are so arranged that three wagons of growers may unload at one time, with weighing scales at each door so there is no confusion in the handling of the fruit. The fruit is all handled so as to give the minimum amount of injury, being carried from one part of the house to another on the wide belt system and at no time is there any fall sufficient to bruise the fruit in the slightest. In fact, the greatest fall is at the dump of the automatic weighers.

The most remarkable feature connected with the house is the pre-cooling rooms in the basement in the capacity of 35 cars of packed fruit, and the almost automatic carriers, which take the fruit to these rooms after packing above, then returns it to the car when cooled. The carrier will take the fruit from these cooling rooms to the entrance to the car which is connected with the cooling rooms by a hood so that the fruit is not allowed in the warmer atmosphere after the cooling.

When the pressman nails the covers on the packed orange box, the box is placed upon the automatic conveyer which carries the fruit down the chutes a distance of 300 feet to the farthest rooms. The same system is used in the delivery to the car.

One advantage with this pre-cooling plant will be the possibility of holding fruit for a longer period in case of glutted market or unfavorable weather.

Above and in the front of the building are the large and commodious offices with fire-proof vaults. The secretary and manager is H. E. Walcott, and the officers and directors are: H. J. Nichols, president; Fred J. Smith, vice-president; J. H. Graber, Mel Campbell, J. M. Mitchell, D. A. Hawk, and J. G. Robertson. The membership at present is made up of 225 orange growers, and the total output this year will be about 650 cars.

EUREKA LEMON and VALENCIA Trees

First Class Trees
from First Class Buds
on First Class Roots

Chas. S. McMillan, Alhambra, Cal.

$300 PROFIT FROM ONE ACRE

We OWN 12,000 acres of best CALIFORNIA IRRIGATED LAND which we will sell direct in 5, 10 and 20-acre tracts. Fruits will pay $300 per acre and alfalfa $100 per acre; 1500 settlers there already. Illustrated description free. Irrigated Land Co. of California, 505 J St., Sacramento, Cal.

"Thousands of Baby Chicks"

We ship safely within 48 hours of Los Angeles. Send for price list on thoroughbred chicks and eggs.

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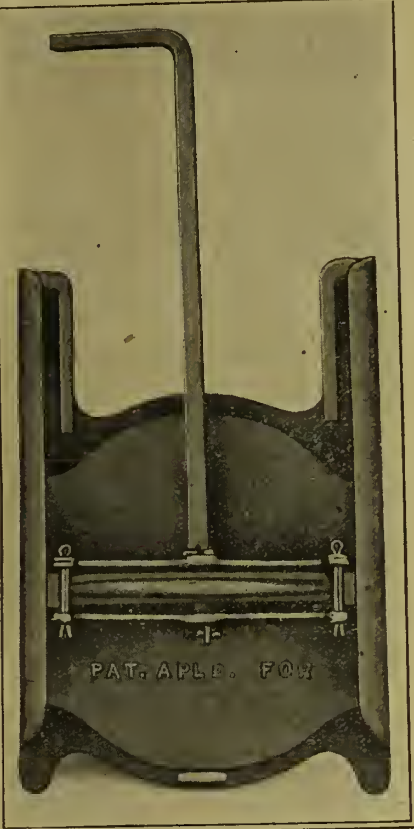
711 So. Main St., Los Angeles

Citrus Trees

For Season 1908

Valencia, Eureka Lemons, Thompson
and Washington Navels, Grape Fruit

C. L. McFarland & Co.
Riverside, Cal.

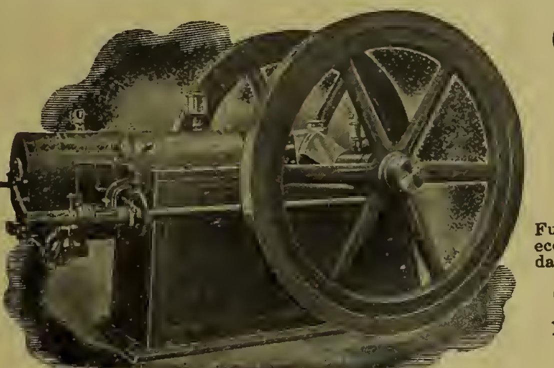


Pomona Pressure Gates

A Great Aid in Irrigation

These gates are made similar to the ordinary slide gates except that there is a locking device interposed to lock the cover in any desired position or to press the two faces together to make a WATER TIGHT joint, from either direction when closed. The parts are very simple, only a tapering screw with a split tapering nut socket. By turning the handle to the right tightens, and to the left loosens the cover or it may be removed entirely.

Pomona Mfg. Co.
Pomona, Cal.



Columbus Engines

Have Stood the Test 14 Years

Fully guaranteed. Most simple and economical engine on the market today. You can't go wrong on a Columbus

Columbus Engine Co.
121 South Los Angeles St.,
Los Angeles, Cal.

Morrow Double Two-Cycle Engine Co.

We build the **MORROW DOUBLE TWO-CYCLE GAS ENGINES** without a valve, or coil spring. No packing. Constant compression and constant explosion. 20 H. P. only weighs 730 pounds. Best engine for pumping water extant. It's "fool proof."

J. G. Bates

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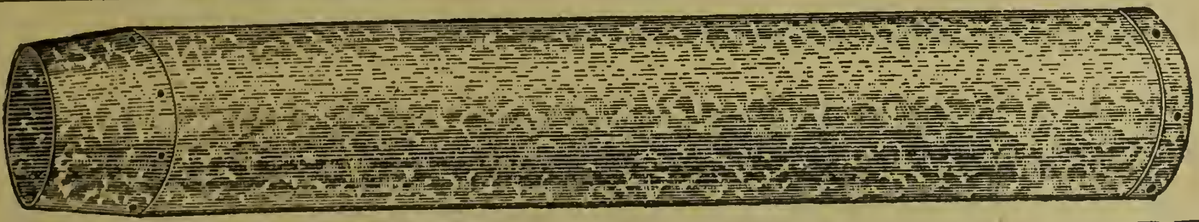


AMERICAN SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties.** We make **Riveted Water Pipe** in lengths of **ten feet** from **single sheets.** Let us **prove** to you that we make **Pipe** and **Tanks right.** WRITE FOR CATALOGUE.

AMERICAN STEEL PIPE & TANK COMPANY
FORMERLY TALLERDAY MANUFACTURING COMPANY

636-7 Pacific Electric Building Los Angeles, Cal.

Tulare County Waterways

Written especially for the California Cultivator.

BY A. E. MIOT, TULARE.

One of the foremost pushers for Central California in general, and Tulare county in particular, has been Mr. Arthur E. Miot, secretary of Tulare County Board of Trade. We are glad to have Mr. Miot present to Cultivator readers matters regarding the irrigation interests of his productive section. It is a rich section and will make a rich people.—Ed.

THE irrigation system of Tulare county is susceptible of marvelous development and presents some features of peculiar interest. Seventy-five miles of the highest peaks of the Sierra Nevada range stretch themselves across the eastern boundary of our country, forming a magnificent water shed of 1500 square miles.

ALTA DISTRICT CANAL.

Provided by Nature.

At a glance we realize that the great value of this water shed lies not so much in its area as in its topographical formation. The lower altitude of this region is about 5000 feet, while the region of most importance, namely, the source of the principal streams, reaches an altitude of 15,000 feet, which is the region of perpetual snow. Thus nature has provided a vast reservoir to store the storms of winter, in the form of snow and ice, the gradual melting of which during the long summer months, feed the streams that furnish the gravity canal systems with their supply of water for irrigation.

Following along the line of natural resource it would seem as if our irrigation system was the result of a prearranged plan by nature to supply the wants of man, destined to inhabit the semi-arid regions of the plains.

FURROW IRRIGATION IN TULARE COUNTY.

The main arteries which deliver us our water are the Kaweah and Tule rivers. While these streams are confined to the mountains all the creeks and streams flow into them, but when they diverge upon the level plains the order of things is reversed and all the creeks and stearms flow away from the rivers, for the rivers do not cut deep channels for themselves and thus act as drainage canals, but, to the contrary, they flow out on the top of the land, spreading out like the leaves of a fan into numerous creeks and channels, thus forming a great distributing system. Thus nature in its wisdom and especial goodness established our first irrigation system.

Now it was but a step fo man to supplement nature's placing dams or weirs in th channels, subdividing the flo river, and with the aid of ditches further spreading on the face of the land; about all we have done for so far as the great gravity tems are concerned. No been done to control the ri reservoir the flood waters accept what nature deli and in time of excess m sion for times of need. conditions it often occurs water finds its way into Tu than is put to useful purpos

All the Ditch Will Carry.

Again, our system of delivery of prodigal liberality. Here of water is all your ditch will

Continued on Page 471

Plant of the A. T. Ames Manufacturing Co.

Occupying SEVEN ACRES at **Niles, Alameda County, California**

Sixty Thousand Square Feet of Floor Space Devoted Exclusively to the Manufacture of

IRRIGATING
CITY WATER WORKS
PUMPS
RAILROAD
MINING

California Oak Tanned Cup Leathers

pportunity for Great Development

An Industry Which is in Its Infancy and Offers Many Inducements to the Producer

Two Hundred Acres of 'Barb to be Planted by One Company at Pomona

J. B. WAGNER.

SIR, when I began the cul-
e of rhubarb in California it
s with the intention of let-
g as few know it as possible.
had a great field and a big
nd did not care to have too
ers know how great profits
secured from the industry."
ove is the substance of the
ade by Mr. D. D. Bryant
of the Adiramled Associa-
Pomona. This association
ght into existence something
ar ago and was the result of
ng to California of Eastern
o engage in a business which
ring to it the greatest re-
Mr. Bryant had been in the
ng business in the city of
and was the writer of note
her lines beside that for his
blication. Wishing a more ac-
tdoor life he cast about for a
ch as the culture of rhubarb
and on the "street" at Chi-
e soon learned of the demand
e scant supply of rhubarb at a
when other fruits are not plen-
He soon had a virtual contract
of the largest dealers in that
tal a hundred carloads of
rhubarb each season to be de-
during the months of January,
ry and March. On coming to
a, the advantages offered by
n the sections of Pomona ap-
to him and he proceeded to se-
son of the large acreage,
rst year was an experimental
d the planting of only 40,000
was made covering eight acres
lanting, something less than a
go, is now maturing for mar-
ree cuttings during this season.
as already been made and an-
s now ready. The success has
ch that the association has de-
o very largely extend its plant-
Before the rains of another fall
a total of 125 acres will be
d to rhubarb. By the end of
r season this will be practically
d or at least a total acreage of
res will be planted.

s has been made possible by the
taking up of stock in the Adi-
l Association. This association
rporated with 300,000 shares of
150,000 of which have been sub-
d. The scope of the business
nplated is not simply the grow-
the "fruit," but contemplates
eting in a large way, also the es-
hing of a cannery and possibly
nery for the working up of the
nd surplus stock.

ile this product is called "win-
rhubarb and is truly such, it is
a good summer grower as well.
s summer growth can be worked
by-products by canning, and as
e, it will lend additional attrac-
ess to the industry and make an
e-year round crop.

Will Take It.

w, to refer again to the remark
by President Bryant at the
ng of this article. There has
een a total planting in California
0 acres of this luscious product
the local market has continually
l for all that has been produced.
shipping of a carload is unknown.

RHUBARB RANCH OF ADIRAMLED ASSOCIATION, POMONA.

Even overland shipping of an express package more than an experimental proposition is also unknown. But the experimental shipments made by Mr. Wagner of Pasadena show conclusively that the markets of Chicago, St. Louis and New York will eagerly receive the product if it can only be supplied in quantity. But Mr. Bryant has now learned that greatly increased acreage is necesary to ever start the industry.

We believe this industry at this moment can be compared to the orange industry of 25 years ago, when the planting of the Wolfskill orchard of 45 acres in the city of Los Angeles caused people to hold up their hands in astonishment because of the overdoing of the industry, the planting of that orchard did, in fact, overstock the market, which was only a local one for a very short time. But its total of a few carloads is more than exceeded every hour in the day at this writing, and yet California is not as much in danger of overproduction with its 30,000 cars of oranges as many thought would be the case with that one orchard less than a quarter of a century ago. The demand for the luscious fruit increases faster than the production. The development of h celery industry has the same lesson in that quantity is necessary in order to encourage large Eastern dealers to labor to establish the industry. This State now sends out during the season 30 carloads daily and is still unable to meet al the demand—Michigan and other large shipping districts notwithstanding.

A Comparison.

Cabbage may be mentioned as a case where overproduction has occurred, but we call attention to the fact that there we are dealing with a product that is grown wherever there is soil. This product is now down so low that the producers are reeciving barely $5 per ton. It may not be in good form these days to draw a moral from a story, and in this case we will simply suggest that where such a product commands only $5 and rhubarb can be produced as quickly and as cheaply and commands $80 to $100 per ton, no moral need be suggested even to the most ordinary mind, especially where one planting of rhubarb suffices for many years, while cabbage must be planted annually and no more care or labor required.

As to the field of culture it may be said that any deep, rich, sandy soil, wherever an orange tree will grow successfully, will make most successful rhubarb conditions. If the frost does come so as to injure the plant it is only the one crop which may be lost, as the plant quickly recovers and within six weeks the crop is ready for another gathering.

Not Plants Enough.

The only drawback at this time in the extensive planting of rhubarb seems to be the inability to secure plants. Mr. Bryant remarked to the writer that it would be doubtful if he would be able to get thrifty, stocky plants to finish his entire planting of 125 acres this season. There are, indeed, but very few in California who have realized the worth of this remarkable plant. One of these men, of whom the Cultivator has often spoken, who has devoted most intense energy in developing this plant and bringing it to its greatest producing capacity, is Mr. J. B. Wagner of Pasadena. Seven years ago Mr. Wagner began the work with a bunch of plants secured directly from Luther Burbank who originated it. Two factors which were serious objections to the culture were the facts that the seed would not always come true to parent; that is, it would at times "throw" back to one of the original parents which Mr. Burbank had used in hybridizing; and some of the plants, while giving a very desirable product as to quality of flavor, yet the size of the stalk is so small as to be unmarketable. But by patient study and hard work Mr. Wagner has selected from best possible samples of plants, also done some hybridizing of his own until he has succeeded in producing plants, which, as a rule, are far superior to the original. These plants will not always be of the very highest desired grade, but much better than the common crimson winter, at the same time the percentage of culls is so very light that it is not a commercial factor.

D. D. BRYANT, POMONA.

Work for Many.

Mr. Wagner deserves credit for patiently working out the problem of this delicious product and in producing and replacing on the market the young plant which many confidently believe will yet be the means of bringing thousands of dollars to this State and by giving employment to a vast number of California people. It is one of the kind of products which means work of many hands to culture and market, and that means many small ranches with homelike surroundings. It is also a credit to men of Mr. Bryant's class to come here and put in their means to develop this great industry. May Mr. Wagner continue to develop and produce a finer article and thus enlarge this industry which will give employment to a large number who will some day rise and call him blessed for encouraging them in taking up this profitable industry. He has done more to introduce and promote the culture of the rhubarb industry in California than all others combined. In fact, he took the matter up where Burbank dropped it and is the one man of all to whom credit is due for the position which rhubarb holds commercially today.

Eastern Culture.

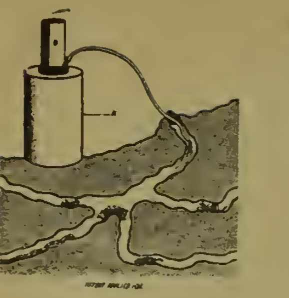
As to its Eastern culture, Mr. Wagner says:

"They have large hothouses, some of them covering half an arce, devoted to forcing during the winter months. For this forced hothouse stuff the growers reecive from 35 to 70 cents per pound. This commands this enormous price because of its out-of-season possibilities, but the consuming trade complains somewhat because it is lacking in flavor due to the forcing process. I was told repeatedly that if California can produce this in the open the glasshouse grower will promptly be put out of business

"I was certainly very much surprised at the size of the stems of the Eastern grown rhubarb. They are not much larger, and in many instances are smaller than is our winter variety. And surely it is not so appetizing nor so attractive on the market."

Still in the Ring.

A report was at one time circulated in Pasadena, Mr. Wagner's home town, that after his free distribution of $1500 worth of trees and plants to beautify the parks and schools of that city last spring and his departure for a tour of the Eastern States, Mexico and Canada, with his family, that he had retired from active business. This is now shown to be without foundation for his yards at 53 West Colorado Street, almost in the heart of the city, are again being prepared for another season's campaign, while he will handle nearly everything which a general nursery business calls for. Of course, he will, as heretofore, specialize on rhubarb



Kill the Pocket Gopher, Moles and Squirrels

The Peerless Destroyer generates gas from carbide (a cheap substance, which can be bought anywhere,) instantly forces the gas into their holes at the rate of five feet per second, for hundreds of feet, making a wholesale killing of every live thing therein. They stop breathing when the gas overtakes them. No pumping, no trouble. The gas is harmless in the open air, but confined in their holes kills them by the dozen in a single operation. Not an experiment, but a sure thing. FULLY GUARANTEED. Perfectly safe, easy to operate, fully meets the demand for a wholesale destroyer of the pests. Will last for years. The cost is nothing for the work it will do. Full equipment, including sufficient carbide to clear any ordinary ten acres, ready for instant use, sent express prepaid on receipt of price, $5.00, without carbide $3.50. Your money back if it fails to do the work. Write today.

Concerning my Gopher and Mole Exterminator, Mr. C. H. McIsaac, Secretary of the Board of Trade, and proprietor of the Lilydale Ginseng Garden at Santa Cruz, Cal., says:

To Whom It May Concern:

I take pleasure in saying that I have used the patent Carbide-Gas Gopher and Mole Exterminator invented by D. Hawes, and it has proved the most efficacious device I have yet found for the successful extermination of gophers and moles.

COLIN H. McISAAC.

W. H. Lamb, director in Bank of Santa Cruz County and Hardware Merchant in Santa Cruz, Cal., says:

I am sole agent in Santa Cruz County for the Rodent Destroyer. Am selling them rapidly and have never heard of one that did not give satisfaction. THEY DO THE WORK. The owners of the patent are reliable people.

W. H. LAMB.

W. E. Vandervort of 34 Windon Street, Santa Cruz, Cal., says:

I bought a house and lot at the above number, and found the pocket gophers in full possession. I could not poison them nor catch them in traps. I procured a Peerless Rodent Destroyer and cleaned out the pocket gophers and moles, so that now I do not think there is one in the place. In proof that it kills them after using the destroyer, I plowed up the garden and found many dead ones, I think I must have killed two or three dozen.

Signed
W. V. VANDERVORT.

D. Hawes, P. O. Box 307, Santa Cruz, Cal.

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Fine, new stock, Northern grown seeds. None better. Choice Alfalfa. Low price for best quality. Send 35c in stamps for trial order of 12 of our 5c-packages, your choice, postage paid.

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Large stock of the very best goods of all kinds at the lowest prices. Come and see us, or mail your orders; you will be treated right. Send for free Catalogue.

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Tim Carroll, Proprietor Anaheim, Orange Co., Cal.

Washingtonia Robusta and Phoenix Canariensis Palms, any size from 1 to 8 feet, in large quantities.

Street and ornamental trees; Cypress and Guavas; Blue, Sugar, Rudis, Diversicolor, Robusta Tereticornis and Red Gums.

All eucalyptus and Cypress taken up with my patent transplanter, with a ball of earth around the roots and placed in rows in flats with sand sprinkled between for shipment.

Prices on application.

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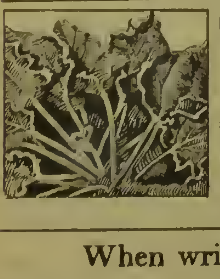
Send in your order at once. Full directions for growing will accompany each packet. Address

Johnson & Musser Seed Co., 113 N. Main St., Los Angeles, Cal.



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1000 choice Navel Oranges, together with a few other Citrus Trees. April and May are best months to plant Rhubarb for heavy Crops next winter. It has never been equalled as a money maker. $1.50 per dozen, $6 per 100, $40 per 1000. Pedigreed plants.

J. B Wagner

The Berry and Rhubarb Specialist Pasadena, California

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The Vegetable Garde

Written especially for the California Cultivator.
BY Q. A. LOBINGIER, SAN GABRIEL.

Mr. Q. A. Lobingier is a busy man these days. The garden is going i
from the busy moments a few have been stolen to make a valuable little art
the irrigation of the garden. There is a fund of information here. Read it.

IRRIGATION IN THE VEGETABLE GARDEN.

IT IS astonishing how persistently the recently arrived settlers or the inexperienced native will "water the sun." By this is meant sprinkling the surface, or allowing the water to flow rapidly across the land in shallow ditches and shutting it off as soon as it reaches the end of the ditch. Either method is often more injurious than beneficial. Few people have even the faintest conception of the power of the sun and wind to evaporate every drop of water applied in this manner. The loss is not alone in evaporation, but the soil becomes baked and difficult to work, and without life as we are apt to express it.

prepare for It.

The true way to irrigate the vegetable garden is to have everything planted in rows—wide or narrow, according to the kind planted, and have a flume across the head of the garden having galvanized iron gates with slides, so that the water is under perfect control. Make the furrows between the rows—one or more according to the width, and allow the water to run rather freely until it reaches the end of the row, after which close the gates so as to allow just as much water to pass through as will reach to the extreme end of the furrow. This is more difficult to do on some soils and grades than others, but approach it as nearly as you can. Allow the water to run until the soil is well soaked.

No rule can be given as to how long this will take, as the soil and grade are leading factors in the matter, and each particular garden is a problem of itself. A good irrigator is like the poet, born not made. Not one person in fifty of those who work in our orchards and gardens comprehend the theory and practice of successful and economical irrigation. Many can wet the ground, but it is with a woeful waste of water.

Frequent irrigation keeps the soil cold and packs it so that the air cannot circulate through it. Thorough irrigation at long intervals, followed by good and frequent cultivation between, thus allowing the soil to get well aired and warmed, will bring best results. By planting everything in rows it is possible to supply each kind with just what water is needed, for some crops need less than others.

"Never Permit Your Plants to Suffer for Water."

I am asked the question "how often do you irrigate" more frequently than any other and I must answer, just as often as the crop needs it. We have no set rule. The weather, the soil, the particular crop, the care had in cultivation, are all to be considered. Long experience enables us to detect at a glance, by the appearance of the soil and plants, any need for water. The nearest approach to a rule that we have is "never permit plants to suffer for water." The freshness and vigor of the crop, the condition of the soil, the atmospheric conditions are all to be reckoned with and any one having average intelligence can, by a little observation, soon learn.

Get your water deep into the soil
and then by the most careful, p
ent cutivation, keep it there
plants to evarporate it th
foliage, instead of allowin
and wind to drink it up—s
that will surely happen if yo
sprinkle or wet the surface

IRRIGATION IN SACRA

Continued from page

erous favorable sites where
ter rains could be stored to
upon as needed. This wat
only runs to waste, but
high water season does imm
age, overflowing the banks
merging vast areas of land
voiring this surplus winte
this condition would be ave
we should no longer have
water in the winter and too
the summer, to suffer from
ditions but could so arrange
the soil should have a bala
tion and be given a drink a
and not drowned out.

A Ground Hog Case.

The present rapid increase
lation in the north makes thi
sary and with the necessity wi
the consummation. By the pro
servation of water every acre
ble land in the Sacramento va
be cultivated and it will be
time.

WHAT ABOUT A COOK STO

Now that summer time and
days" are just ahead, everybod
"summers" at home, is consi
how to simplify things and g
most comfort out of an uncomf
situation.

We interview the iceman; o
clothes; plan to ease up he
lax there; but more than lik
the one most important item
whole hot weather sche
means of doing the family
without the insufferable heat
coal stove in the kitchen.

Everyone with experience
how tiresome it is to stay in
room to prepare a meal, let al
doing of a big baking. But
doesn't know how very easy
change a hot kitchen to a
and do better cooking at t
time. Just add to your list
mer conveniences a New
Wick Blue Flame Oil Cook St
you've done all that any on
to lessen hot weather discom

Wouldn't it be fine of a
morning to step in the kitchen
the kettle, broil the steak,
muffins, filter the coffee and g
breakfast call in one-fourth t
you'd take to do it all on a coal

And wouldn't it be fine to be
when the breakfast was pre
when you first entered the k

People who have tried it
the New Perfection Oil Stove
does everything in the line of c
and domestic service without
heating the room or the worke

Undoubtedly the reason is
found in the blue flame princi
which the stove works.

A cylindrical chimney conce
the heat at the stove top and i
way prevents surface radiation
a coal or wood stove.

It is easy to see that this i
very much the matter of person
comfort in summer housekeepin

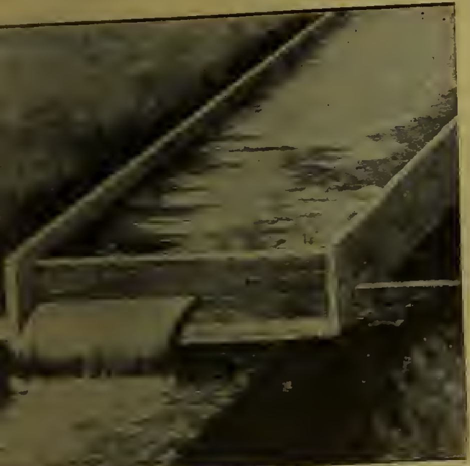
So don't forget the New Perf
Oil Stove in your summer plan
you will have a comfortable k
and the best cook stove in the

MEASURING WATER.

IRIES as to measuring water are often of the Cultivator. That is, how can ayman get a fairly accurate idea of the of water in any ditch? This table en published in the Cultivator before, now given again for the benefit of those ay not have noticed the former table. urse the miners' inch measuring box is the ccurate, but at the same time more ex- to prepare.

asure an Inch.

that measurement a box should be con- d, at more or less expense, with an opening variable as to length, by a sliding stop, as



A Miner's Inch Measuring Box.

n in the cut of "A Miners' Inch Measuring The lower edge of the aperture shown in u' should be two inches above the bottom of easuring box and the plank five inches high th aperture, thus making a six-inch head e the center of the stream. Each square inch is opening represents a miner's inch, which ual to a flow of one and one-half cubic feet minute.

Measurement.

is convenience, however, is seldom at hand, e also give a cut illustrating the "Wier Dam surement." which is so simple that any one construct and get at least a general idea of amount of water flowing in a stream.

he miner's inch here is usually figured on the s of four-inch pressure.

he wier should be so placed that the water sing over it should be in effect a discharge n the still water of a reservoir and shall not n the least affected by the velocity of the cur- t flowing into the reservoir or wier box. This ocity of an inflowing curent, if noticeable at wier, becomes a "velocity of approach," which will render inaccurate the desired measurement. This "velocity of approach" may be obviated by placing one or more lattice screens made of laths or other similar construction between the wier and the inlet.

The length of notch should be at least four times its depth for small quantities, and longer for large quantities. In addition to the above, for accurate measurements it is advisable, if possible, to also have the length of the notch about two-thirds of the width of the water on the upstream side; it may be necessary to experiment somewhat in order to obtain this condition.

The overfall, or vertical distance, the water falls on the down-stream side, should be about twice its depth—that is, 12 inches if the notch is six inches deep, and so on.

In the pond not less than three feet, and preferably six feet from the wier and to one side so as to avoid any current, drive a stake, with its top precisely level with the bottom of the notch in the wier; then measure carefully with a rule the depth of water over the top of the stake. This will give the theoretical depth of flow.

The two tables given on this page may be used to determine either the number of miner's inches or the number of cubic feet per minute.

The wier table is based on zero velocity of approach. Where the velocity of the stream is considerable, the following correction must be added to the measured depth in order to compensate for this velocity of approach:

½ ft. per second	1-16 inch
1 ft. per second	¼ inch
1½ ft. per second	⅝ inch
2 ft. per second	1⅛ inch

TABLE FOR WIER MEASUREMENT.

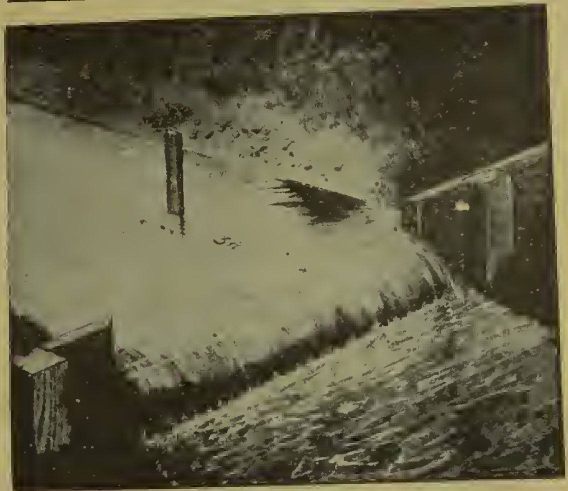
Giving Cubic Feet of Water per Minute, that will Flow Over a Wier One Inch Wide and From ⅛ to 18⅞ Inches Deep.

INCHES		⅛	¼	⅜	½	⅝	¾	⅞
0	.00	.01	.05	.09	.14	.19	.26	.32
1	.40	.47	.55	.64	.73	.82	.92	1.02
2	1.13	1.23	1.35	1.46	1.58	1.70	1.32	1.95
3	2.07	2.21	2.34	2.48	2.61	2.76	2.90	3.05
4	3.20	3.35	3.50	3.66	3.81	3.97	4.14	4.30
5	4.47	4.64	4.81	4.98	5.15	5.33	5.51	5.69
6	5.87	6.06	6.25	6.44	6.62	6.82	7.01	7.21
7	7.40	7.60	7.80	8.01	8.21	8.42	8.63	8.83
8	9.05	9.26	9.47	9.69	9.91	10.13	10.35	10.57
9	10.80	11.02	11.25	11.48	11.71	11.94	12.17	12.41
10	12.64	12.88	13.12	13.36	13.60	13.85	14.09	14.34
11	14.59	14.84	15.09	15.34	15.59	15.85	16.11	16.36
12	16.62	16.88	17.15	17.41	17.67	17.94	18.21	18.47
13	18.74	19.01	19.29	19.56	19.84	20.11	20.39	20.67
14	20.95	21.23	21.51	21.80	22.08	22.37	22.65	22.94
15	23.23	23.52	23.82	24.11	24.40	24.70	25.00	25.30
16	25.60	25.90	26.20	26.50	26.80	27.11	27.42	27.72
17	28.03	28.34	28.65	28.97	29.28	29.59	29.91	30.22
18	30.54	30.86	31.18	31.50	31.82	32.15	32.47	32.80

Suppose the wier to be 66 inches long, and the depth of water on it to be 11⅝ inches. Follow down the left hand column of these figures in the table until you come to 11 inches. Then run across the table on a line with the 11, until under ⅝ on top line, and you will find 15.85. This multiplied by 66, the length of the wier, gives 1046.10, the number of cubic feet of water passing per minute.

Table of wier measurement giving miner's inches:

1	2	1	2	1	2	1	2
⅛	.01	3⅞	2.56	7⅝	7.04	12¾	15.27
¼	.04	4	2.69	7¾	7.22	13	15.72
⅜	07	4⅛	2.81	7⅞	7.40	13¼	16.18
½	.12	4¼	2.93	8	7.58	13½	16.64
⅝	.17	4⅜	3.07	8⅛	7.76	13¾	17.10
¾	.22	4½	3.19	8¼	7.93	14	17.57
⅞	.27	4⅝	3.33	8⅜	8.12	14¼	18.04
1	.33	4¾	3.47	8½	8.30	14½	18.52
1⅛	.39	4⅞	3.61	8⅝	8.48	14¾	19.00
1¼	.46	5	3.75	8¾	8.67	15	19.48
1⅜	.54	5⅛	3.89	8⅞	8.86	15¼	19.98
1½	.62	5¼	4.03	9	9.05	15½	20.47
1⅝	.69	5⅜	4.18	9⅛	9.23	15¾	20.97
1¾	.77	5½	4.32	9¼	9.42	16	21.47
1⅞	.86	5⅝	4.47	9⅜	9.62	15½	22.47
2	.95	5¾	4.62	9½	9.81	17	23.50
2⅛	1.04	5⅞	4.77	9⅝	10.00	17½	24.54
2¼	1.13	6	4.92	9¾	10.19	18	25.58
2⅜	1.22	6⅛	5.08	9⅞	10.39	18½	26.65
2½	1.32	6¼	5.24	10	10.59	19	27.74
2⅝	1.42	6⅜	5.39	10¼	10.99	19½	28.83
2¾	1.52	6½	5.54	10½	11.39	20	29.95
2⅞	1.63	6⅝	5.71	10¾	11.80	20½	31.07
3	1.74	6¾	5.87	11	12.22	21	31.21
3⅛	1.86	6⅞	6.04	11¼	12.65	21½	33.36
3¼	1.97	7	6.20	11½	13.06	22	34.52
3⅜	2.08	7⅛	6.37	11¾	13.50	22½	35.70
3½	2.19	7¼	6.53	12	13.94	23	36.90
3⅝	2.31	7⅜	6.70	12¼	14.38	23½	38.10
3¾	2.43	7½	6.87	12½	14.82	24	39.92



Wier Dam Measurement.

For instance: If the rule indicates a depth of three and one-eight inches of water, turn to column No. 1 for three and one-eight inches. Opposite it in column No. 2 is 1.86, which means that for every inch of the wier there is flowing 1.86 inches. If the wier is 36 inches long: 36x1.86—66.96 miners' inches over the wier.

Mowers Hay Rakes

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Chiffoniers for Men

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Have double gears, removable bearings and center lift, which double the life of the mill. They will last longer, pump more water and give better satisfaction than any other WIND MILL.

This is an up-to-date Sub-structure, Tank and Wind Mill outfit complete; substantial, economical and attractive. We build all kinds. Write us or our general agents for full information and prices, description &c., before purchasing.

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When writing advertisers. mention Cultivator.

Tri-Counties Reforestation Committee

Written especially for the California Cultivator.
BY FRANCIS CUTTLE, RIVERSIDE.

California is taking the lead in this country in proclaiming the gospel of foresting and afforesting. It is because of the high average intelligence of California farmers with capacity to see that a "condition, not a theory" confronts us. Nor is it entirely farmers who have taken this interest, for many business interests and civic societies have joined in the work. But as much as we lead, it has taken work to educate to the point already reached. Foremost of these movements is that of the Tri-Counties Reforestation Commitee. Foremost and leader in that is Mr. Francis Cuttle of Riverside who writes the following article. May the good work of this organization spread over the State.—Ed.

PRIOR to the organization of this committee, little attention was paid to the conditions existing on the watershed from which practically all of the irrigating and domestic water for the counties of San Bernardino, Riverside and Orange had been secured. Each fire which spread over the mountain side brought its outburst of indignation from the citizens and the press. Each time the attention of the public was called to the destruction of large timber by the lumbering men, more indignation was expressed by citizens and press.

The dry season, which ended in the fall of 1905, called, in no uncertain terms, the attention of irrigators to the fact that they were facing an increasing population and a decreasing water supply. The most expensive litigation that had been carried on, and is still being carried on, brought no aggregate relief. It might for a short period of time give one company, or community or individual, a little more water than he formerly had, or assure him of a little more permanent flow; but every such addition to the supply of one company, or individual or organization, meant the lessening of the amount, in just the same proportion, to some one else.

Showing area with timber destroyed. Also, area with timber in its natural state.

Results of Scientific Forestry.

About this time Mr. Gifford Pinchot, Forester of the United States, stated in a public address that many instances had been recorded in history, and it had been scientifically demonstrated, that streams had been entirely dried up by the destruction of the timber and brush on their water sheds; and in other instances, streams of water had been made to flow perennially by scientific forestry. The writer interviewed Mr. Pinchot with reference to the statement and he was assured that such were the facts, and that it would undoubtedly be possible to largely increase the summer flow from the San Bernardino mountains, and possibly double the same by protecting the timber and brush, and planting trees and protecting the same from destruction by fire and lumbermen. This was called to the attention of the Riverside Chamber of Commerce at the annual meeting in December 1906, and a committee was the and there appointed to confer with the San Bernardino and Redlands Boards of Trade, to see whether or not some action could not be had that would insure the protection of the timber and brush on the south slope of the San Bernardino mountains and to increase the same.

The suggestion of the Riverside committee met with hearty co-operation from the San Bernardino and Redlands Boards of Trade, when the matter was called to their attenion. and a committee of ten was named to carry on the work, five from each of the counties of Riverside and San Bernardino. During the early part of 1906, they raised from the different irrigation interests in the two counties $2000. This was supplemented by an additional $1000 from the Forest Service at Washington. This money was used for the construction of fire lanes and trails on the San Bernardino mountains.

Permanently Organized.

During the summer of 1906 the committee decided that a permanent organization should be formed to carry on the work, and on December 15th, 1906, at San Bernardino, the Tri-Counties Reforestation Com was organized, having for its

To diminish the winter and run-off and increase the summe of water from the San Bern water shed. First, by securi the Federal Government the ship of all lands within the o boundaries of the San Bern Forest Reserve.

Second, by preventing the destruction of timber and bru in the said reserve.

Third, by reforesting all areas.

Fourth, by afforesting, where ticable, all areas not now co with sufficient timber to conser the best advantage the prec falling on the said reserve.

Government Aid.

This committee consisted of members from each of the of San Bernardino, Rivers Orange. The committee met as provided in its by-laws, in ary 1907, at San Bernardin since that time has held quarterly meetings in the towns of the three counties.

In January 1907 the matter curing financial aid from the Government was brought to tention of our delegation in Co and of Forester Pinchot, and a ise was secured that $5000 set aside for this work, provided equal amount could be secured f the State legislature of Calif then in session. The chairman of committee immediately went to ramento and through the efforts of representatives from the three co ties, in the Legislature, secured th sage of a bill appropriating $500 this work, to be used in conne with the $5000 promised fr the Forest Service. This, togeth the $3000 raised by the first mmittee, has enabled the Forest Service to construct nearly forty miles of fire lanes along the foothills, raging in width from fifty to seventy-five feet; to prevent the spread of fire and the destruction of brush and timber

This work has been done under the supervision of Forest Supervisor R H. Charlton, of Los Angeles, in the most thorough and workmanlike man-

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Dismiss the things in the rear of you; tackle the things that are up with you, and prepare for the things that are ahead of you.

f the growth of brush and
s been removed by the
s to prevent future growth.
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Holdings.

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worth of products annually,
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npelled to do it from hard
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cknowledges the help and co-
on received from the Forest
at Washington, the Califor-
egation in Congress, the gover-
California and the legislature
fornia.

ers.

members of the committee for
re:

BERNARDINO COUNTY:
obertson, H. H. Garstin, K. H.
W. L. Vestal, Seth Marshall,
. Atwood, A. B. Paddock, Chas.
h, M. M. Randall, E. J. Yokam,
venport, E. J. Rice.

NGE COUNTY: Wm. Mc-
lin, Henry Adams, A. Pierotti,
Rea, C. C. Chapman, A. S. Brad-
S. Armour, W. H. Spurgeon, S.
ls, A. N. Saxton, E. E. Keech,
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ERSIDE COUNTY: E. A.
, W. G. Fraser, Francis Cuttle,
e Frost, John G. North, E. P.
, C. F. Marcy, Miguel Estudillo,
Holmes, L. C. Waite, W. E. Ped-
V. H. Helms.

PESSIMISM VS. "OPTIMISM."

A correspondent writes: "I do not believe any association or individual can do anything toward the protection of the forests. They are bound to go, in this country, even down to the railroad ties and prop timbers. Assessments are so high that no one can afford to hold them to grow up into timber again. I have no sympathy with the movement at all."

Over against this should be put the speech made by Speaker Cannon before the National Wholesale Lumber Dealers' Association in Washington on the 12th.

Mr. Cannon declared himself to be "an optimist." He ridiculed the idea that our forests are facing destruction. He scorned the notion that special effort should be made to conserve our natural resources. He sneered at "men who make reputation in public life, in departmental life, in legislative life, by denouncing the criminal wastefulness touching the destruction of the forests," and added: "I sometimes hear them talk; I sometimes wonder how much they know."

Back in Wabash.

He described his early pioneer life in Wabash county, Indiana, when it was necessary to clear the forests to provide land for farming; and then inquired: "Is there a man here . . . who would put us back to fifty years ago, when there was nothing but the wild beasts and the adventurous pioneer to be found in that vast domain known as the Northwest Territory, that would turn the hands back upon the dial fifty or sixty years ago?"

"What Has Posterity Done for Me."

He exclaimed sarcastically: "What is to become of posterity? Oh, the natural resources are being destroyed! In forty or fifty years we are to freeze to death because there is no more coal and there will be no more lumber, no more timber. Burning the candle at both ends! I suppose we ought to freeze now, that fifty years from now they may have something to warm them." He expresed his faith that the Caucasian race would find some way to meet conditions which may arise, and declared that he was not "losing sleep."

In closing, he thought it "necessary" for lumbermen "to pursue a different policy toward the preservation of your holdings in the forest; that instead of cutting it clean, you should be more careful about the cutting." But added: "You will do it because it is to your interest to do it, and that is greater than anything else. It is greater than law.

Grab It All Now.

Between the pessimism of our correspondent and the "optimism" of Speaker Cannon, the reader may take his choice. The chief difference between the two is that the latter is in the place of power. He sees no occasion for anxiety, and no ground for action by the community through its agency called government. For such slight corrections as may be necessary, he relies wholly upon cold-blooded self-interest and unregulated individual initiative. In so far as this speech is an index, his political economy is that of a hundred years ago, as voiced by David Ricardo: Laissez faire, each for himself, self-interest the grand automatic regulator of our whole industrial mechanism!

"After us the deluge!"

"I suppose we ought to freeze now, that fifty years from now they may have something to warm them."—Forestry and Irrigation Magazine.

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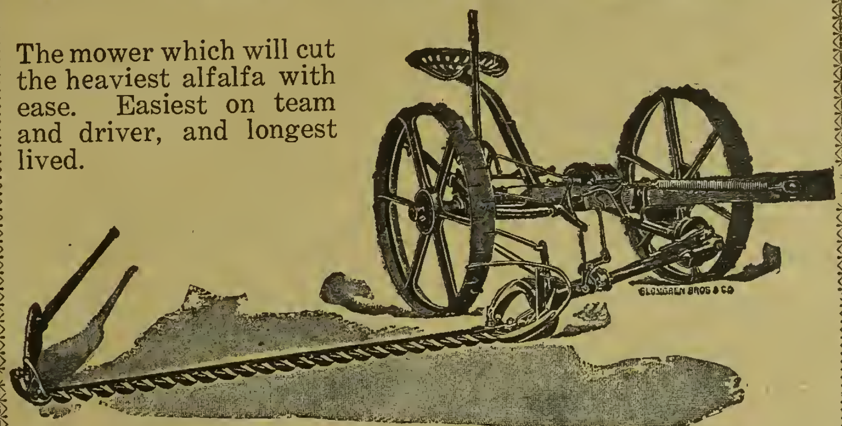
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The mower which will cut the heaviest alfalfa with ease. Easiest on team and driver, and longest lived.

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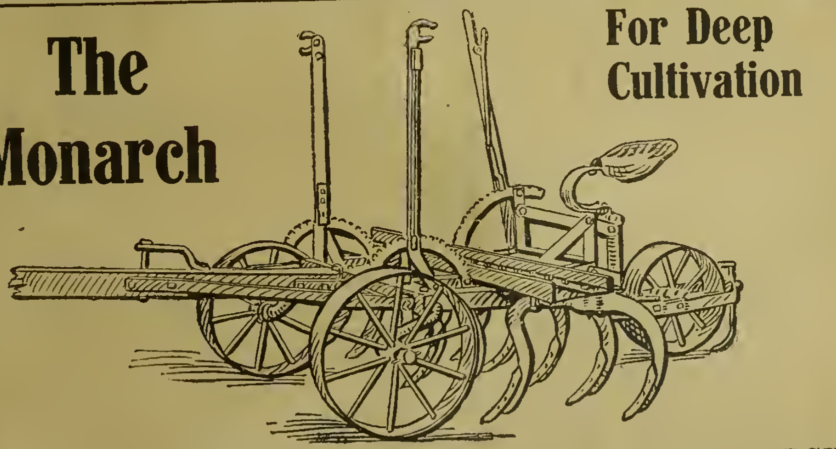
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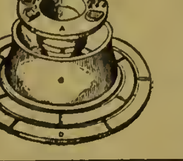
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Second hand 2-inch pots stored
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Try sample lot.
Chas. Howard Riverside, Cal.

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Bordeaux for Codling Moth.

I would like to know what to do for pear trees. Last year every pear had a worm in it. We sprayed them with the Bordeaux about a month ago. Is that the right spray for that trouble? Did we spray too early? They are just in bloom now.—Mrs. J. C., Riverside.

Bordeaux mixture is of no value for codling moth unless it has been mixed with Paris green, arsenate of lead, or some poison. Bordeaux is not an insecticide at all; it is very valuable to prevent fungus on fruit and trees, such as scab, curl leaf, mildew, etc. For codling moth when the petals of the blossoms are dropping, spray with a solution of Paris green one pound to 200 gallons of water, or with some arsenate spray, also again two or three weeks later. See copy of The Cultivator of March 12 for fuller spraying directions.

Coddling Moth.

What kind of a solution can I use for spraying apple trees to keep away coddling motht?—F. C. W., Fresno.

See answer to Mrs. J. C., this issue.

Spineless Cactus.

Regarding the spineless cactus, about which inquiry was made last week, we are informed that Johnson & Musser Seed Co. of Los Angeles have roots of excellent quality at $1.00 per root.

Butter Won't Come.

What shall we do when cream under usual treatment absolutely refuses to be churned into butter? After churning for some time the cream seems to become thinner and foams. Cow is young; been milking about two months, and is in good condition. Is staked out on good pasture and gets a feed of potatoes in morning.—W. G. G., Hemet.

Wash and scald everything well. Then secure from a neighbor who makes good butter some buttermilk, a pint to a quart. Stir this into the cream after warming it up to 70 deg. Let it stand over night, covered. Then churn at 50 deg.—M. E. S.

Pear Blight.

I planted five acres of pears, Winter Nellis and Bartlett, last month. Please tell me through the Cultivator what treatment will be needed to keep them free from blight. Will I need to spray this year? If so, what and when?—C. M. N., Santa Ana.

There is no spray will aid you in keeping your trees free from blight, or at least there has not been any which has been generally accepted by experts that have been studying this disease. We may say, however, that a company at Vacaville is now selling a compound which they assert has shown good results. As a rule we may suggest as safe to immediately on its first any indication of blight. T

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

NORTH TELEPHONES specially adapted to farm lines. Sold direct from factory. Book of instructions how to organize farmers and build line free. Write for Bulletin No. 308. The North Electric Co., Cleveland, O. Kansas City, Mo. Dallas, Tex.
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and other variet
in flats and po
Also pepper, acac
etc. Very fine st
Leonard Coates Nursery
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ready for planting, take flats; roots dipped in packed in moss Pre you by express. 100, 500, $10.
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e blighted limb several inches any indication of the blight and immediately. Keep all tools zed by dipping in formaldehyde on.

Orange Seed.

ere can I secure sour orange —Subscriber, El Centro.

ite seed men advertising in the vator.

son Grass.

end roots of grass which is seri- troubling my orchard. What is W. M. M., Lakeside.

is is a straight case of Johnson , one of the worst pests to be led. If in open ground where it be cultivated it may in time be cated by thorough cultivation, but ure the top is never allowed to ar above the surface, for that it a new lease of life. If on ating ditch where it cannot be vated it is a more difficult prob- and we ask for suggestions from cribers who may have succeeded it.

ting Orange Seed.

ndly tell me through the Culti- r how to prepare beds for orange grape fruit seed. I wish to set orchard of 10 acres, and will raise wn trees.—E. P. S., Rialto.

you have the Cultivator for the two or three months you will the Query Department on page 74 ne issue of January 16th an answer his same query by Mr. Mills.

s.

lease give information in regard to wing figs. Will they grow well in sno County, and what kind is best? o what kind of olives is best?— scriber, Lemoore.

Ve do not think you will make a take in planting the true Smyrna fig. It has done well in your county, also in Fresno, as has been proved by Mr. Roeding and others. Mr. Roeding would doubtless forward to you information regarding the Calimyrna. The olive is also affected by immediate location, but we think you will find it fairly successful with you. The best strain of Mission is universally conceded to be the best for pickling and as good as any for oil.

REMOVED AND ENLARGED.

The well-known Pump manufacturing company of Galt, California, doing business for the past 27 years under the name of A. T. Ames, building his famous pumps, recentlly organized a new company under the name of The A. T. Ames Manufacturing Company, and secured a valuable site on the Southern Pacific R. R. at Niles. The factory site covers seven acres and the new buildings as shown elsewhere in this issue contain 60,000 square feet of floor space which is devoted exclusively to the manufacturing of the "Ames Pumps" and is equipped throughout with new machinery of the latest design and invention for the building of pumps. This strong feature together with Mr. Ames's long years of valuable experience in this line of work adds a strong indorsement to the standard of their goods, and insures the guarantee which already goes with goods they manufacture.

Their new catalogue, now being compiled will be ready for distribution soon and those desirous of installing pumps for irrigating, city water, railroad or mining systems will do well to consult them.

Some years ago the writer visited the Ames factory at Galt and Mr. Ames proved to be one of these competent men who see the needs of the farmer and has the power of meeting the need in a practical way. The enlarging and improving of those shops is a result of this careful and intelligent work.

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PLAIN

1¾ inch....	.03½	per ft.
2½ inch....	.04½	"
4 inch....	.06	"
6 inch....	.07½	"
9 inch....	.11	"
13 inch....	.16	"

COATED.

1¾ inch....	.04½	per ft.
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4 inch....	.07½	"
6 inch....	.09	"
9 inch....	.13	"
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CEMENT.

THE farmer often has occasion to use cement in making improvements about the farm; and often is more or less at a loss when it comes to selecting the cement to be used, writes Robert W. Gay, Associate Professor of Civil Engineering, Colorado Agricultural College. On large pieces of work where the expense is not prohibitive, extensive tests are made of the cement used. For smaller work regular tests cannot well be made, and resort has to be had to approximate tests, and to general knowledge of the materials at hand. It may, therefore, be of interest to review the principal qualities of cements from the viewpoint of the small consumer.

The two principal classes of cements are Portland and natural, and there are numerous varieties under each class.

Natural cements are of a brownish color, and are lighter in weight, weaker and less uniform in strength, cost less per barrel, and set more quickly than Portland cement. Portland cements are of a bluish color, and are heavier, stronger, more uniform in quality, set more slowly, and cost more than natural cements. There may be more or less exception to the cost part of the above, depending upon the location of the cement plants. In many places the freight charges make up the greater part of the cost.

Natural cements will not weather so well, are slower in gaining their strength, and, as a consequence, should not be allowed to freeze while setting, and should never be laid under water (particularly salt water), in exposed positions, or in positions where a heavy load will come on it within a short time.

Portland cements will be used where strength is required in a short time—for construction under water and in other positions where there is exposure to weathering. Freezing while setting will retard the setting, but will not necessarily cause injury. Where cost is the deciding factor, account should be taken of the fact that more sand may be mixed with the Portland than with natural cement for the same strength. With natural cement at $1 a barrel, and mortar mixed in the proportion of 1 part cement to 2 parts sand, the cost of the mortar will be about equal to that of a Portland mortar mixed 1 part of cement to 3 parts of sand, provided the Portland cement can be gotten for $1.30 a barrel. In this case, the 1 to 3 Portland mortar will be stronger than the 1 to 2 natural mortar.

Care should be taken when it is decided to put a facing of Portland mortar on a backing of natural mortar, or concrete. The facing is likely to scale off.

Unslacked lime (free lime) is the greatest enemy of good cement. Its presence will cause the mortar to disintegrate gradually. To determine the presence or absence of harmful constituents a very simple test may be applied. Two pats of cement (without sand) should be mixed to the consistency of putty and placed on glass. Make them about three inches across and half an inch thick at the center and tapering to a thin edge. Cover with a damp cloth for one day, then put one pat in water and let the other stay in air, preferably moist air. If the pat in air shows large yellow blotches after a time, or if the pat in water begins to show cracks, starting at the edge and running toward the center (showing disintegraion,) the cement is not up to the standard.

THE NATIONAL IRRIGATION C GRESS.

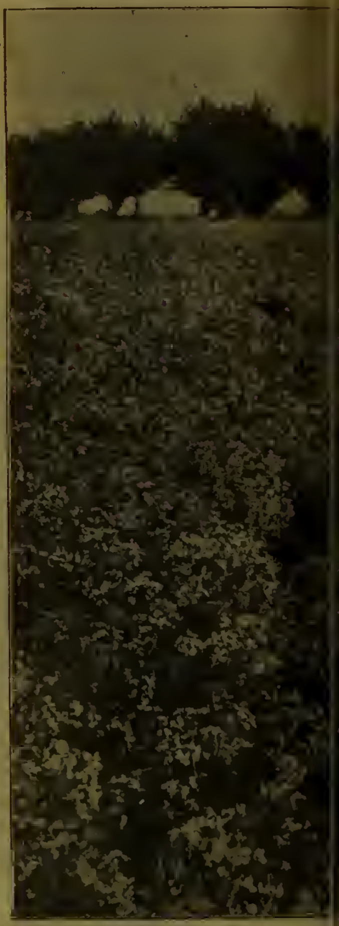
THE National Irrigation Cong will hold its sixteenth sessio Albuquerque, New Mexico, tember [illegible]th, 30th and Octob 2nd and 3rd, 1908. This great ass bly is one of the most import official organizations in the Un States. Its purpose is to prom wise development of governm policies relating to the conserva development and best use of the ests, streams and lands of th c try.

It seeks to save the forests, the floods, reclaim the deserts make homes on the land.

Its annual sessions have had an portant influence on national leg tion and national prosperity.

Those who participate.

The congress is composed of gates representing the Stat territories, of the Union,



municipalities, organized bodi many kinds.

Its personnel includes the h officials of the national gove senators, representatives and istrative officials.

Prominent men from every of the United States attend an cipate in the proceedings. these are governors of State men who stand at the head great manufacturing, commerc financial interests of the c leading professional men, edu engineers and scientists.

What Has Been Done.

The national reclamation through which there has been mulated in the national treas revolving fund of approximately million dollars, now being ex in the construction of great irri systems that will reclaim milli acres of semi-arid lands, is a result of a public sentiment oped by the annual sessions congress.

The new national policy of preservation, under which mor a hundred millions of forest and grazing lands of the pub main have been reserved fron e purpose of preventing denu- and destruction, insuring their use and conserving the timber ange resources of the country ie protection of watersheds, is r duc to the discussions which annually been had at the Na- Irrigation Congress.

velt Says:

congratulate you upon the pro- of the great movement you rep- There is no movement more tically for the benefit of the farmer and the small ranchman. is no other way to assist the settler and homemaker who and tills his own land so power- as through this movement of for the wise use and preserva- f the waters and forests. The iation service and the forest e are directly adapted to help nall man make and maintain a erous home; and they are doing

AS GROWN FOR SEED.

Courtesy Johnson & Musser Seed Co.

Inese services were recently in- ed on the ground by the Secre- of the Interior and the Secretary griculture, who have them in e and I congratulate you on high standards of integrity and ency they have attained.

is a matter of sincere satisfac- to learn that you will not confine selves to the questions of irriga- and forestry, nor even to the rol, use and conservation of ams, vastly important as these to every citizen of the United es. I am glad to know that you give attention also to that prob- of which forestry and irrigation water conservation form but a , the fundamental problem of the servation of all natural resources. work of the government along line of this greater problem can- be made effective without the ap- val and support of the whole body citizens. By educating, guiding crystallizing public sentiment in direction by bringing the needs of people clearly and forcibly to the wledge of their representatives, are rendering a service of the t importance to the nation as a ple."—'Theordore Roosevelt.'

PUMPING PLANTS.

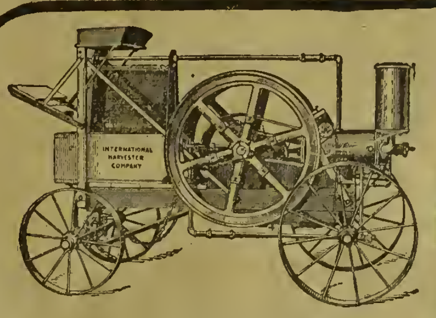
FROM a report of a number of tests of pumping plants made by the University of Arizona, we quote a few which have a lesson for irrigators who depend upon pumps. There is no question but there is a vast loss in the aggregate from inefficient or poorly constructed plants.

The following suggestions are published for the benefit of irrigators who contemplate installing pumping plants. They may prove useful also to operators whose present plants are unsatisfactory and uneconomical. Many tests of pumping plants in Southern Arizona during the past few years have shown that the small plant is often very poorly designed. Since the recounting of errors oftentimes enlightens more than the description of perfect installations, some examples of recent tests are presented.

A 12-H. P. gasoline engine belted to a No. 3½ horizontal centrifugal pump was found running continuously night and day with consumption of 20 gallons of No. 1 distillate per twenty-four hours, costing $4.20 at the railroad. Suction and discharge pipes were of 4½ inches diameter. The latter had one short elbow and the former was protected by a 5-inch foot valve and a cast strainer. The issuing jet of water resembled a fire stream. Pressure and vacuum gauges were attached to the discharge and suction pipes, respectively, close to the pump. The static lift above the pressure gauge as measured with a tape was 7.3 feet, the lift as determined by the gauge was 10.8 feet, indicating a loss of 3.5 feet due to friction and the elbow. The corresponding loss in the suction pipe was 11.7 feet. The total static lift was 16.1 feet, and the combined loss in the piping was 15.2 feet, causing the consumption of gasoline fuel to be needlessly doubled.

At another time observations were made on this plant to determine the cost of pumping, the depth of irrigation, and the specific capacity of the well. A summary of the results is as follows:

Continued on Page 471.



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In the same way it can be used too for irrigating—pumping from wells, lakes, ponds and running streams. The operator can handle the head of water in the field and also attend to the engine.

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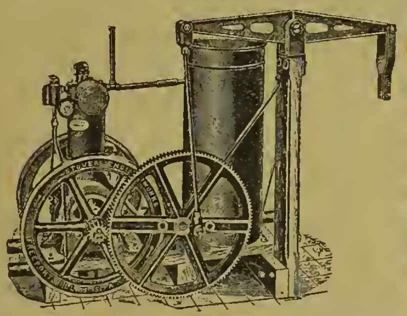

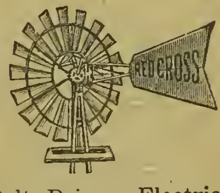

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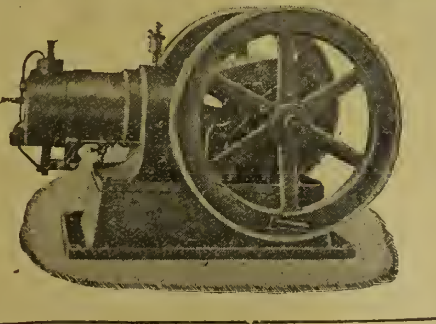

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By error the cover page went to press without credit being given to Messrs. Boxell & Early, photo used to make engraving of "Temples of the West." It is a perfect example of photographic art and worthy of commendation.

EASTER SUGGESTIONS.

The beautiful spring festival of Easter, which comes on the 19th of April, this year, has as its own significance the universal appeal to renewed life.

Here in California, we do not appreciate its meaning so closely as in the colder countries, for there it emphasizes the awakening of nature from the cold sleep of winter, while here it simply repeats the glories of the spring days which mark the beginning and ending of our rainy season.

Taken in the full meaning attached to it, however, we look upon Easter as the time when all nature walks forth in new beauty and new energy.

Spring flowers and real or fanciful eggs are the special Easter ornaments of the home table, capable of an immense variety in decorative effect. A strong argument for special observances in the home lies in the deep and permanent impression they make upon children's minds. The memories of a child are largely made up of the impressions belonging to special days. In a very real way the joy and brightness of a high holiday remains with a child as a lasting possession, a thought which gives a rich reward for a mother's effort. Easter eggs are so nearly indispensable for Easter morning that the children would surely find the world out of joint were they to fail. From the simplest to the most magnificent there is a charm about them all, their mystery only half believed in, yet carrying something of the magic of fairyland.

Of course, flowers will signalize the day, both in home and church, for Easter without them would be like Christmas without holly. These flowers, be they roses or lilies or tulips (in California there are so many varieties to pick,) are all typical of spring—of life and energy, and it would be a pity, while our church altars are so beautifully decorated, to leave the little altars of our home life bare. We owe it to ourselves, to our children, to the home, to decorate our tables with the prettiest, freshest flowers we can gather from the garden, for on this day the sentiment of simplicity and freshness strikes the right keynote. Great are the treasures of simplicity could we but keep our eyes open to them.

CONSERVATION OF MOISTURE.

Farmers who have moved from rain sections are confronted by the proposition of conservation of soil moisture. They should have in mind this fact, crops have to be grown often with from 10 to 15 inches of rainfall, consequently every drop that falls on the farm must be utilized. Oft repeated cultivation is the secret of conservation of moisture. If crops are cultivated with the idea always in view utilizing all the rain that falls, they will come to maturity nad produce a satisfactory yield.

The disc harrow is one of the indispensable farm implements in the drier regions of our country. Ground that has been gone over with a disc harrow maintains what Campbell designates as a dust blanket, and the use of the disc should be made as often as the necessity offers to maintain the dust blanket. Loosening the surface is the principle benefit of the disc, and such treatment will not only conserve moisture, but it also puts the surface of the soil in condition for establishing the most favorable capillary conditions between it and the bottom of the furrow immediately after plowing. It is important also to have the drag follow the plow. If the ground is dragged immediately after plowing the soil particles can be easily fined and thus the first inch or inch and a half immediately becomes a dust blanket. A good capillary connection at the bottom of the furrow is necessary in order to bring the water from the subsoil near the surface where it is needed by the germinating seeds.

CONVENTION PROGRAM.

We hope to have the full program of the State Fruit Growers' Convention to be held at Riverside April 28, 29 30 and May 1, in next week's issue. Some great features are planned, and one of the most profitable of conventions ever held is promised.

Citrus fruits and their culture will be strong factors on the program and the orchards of Riverside are an education to the soil tillers. But citrus discussions will not exclude other important features. Some of the best talent of the north will add to the interest of the occasion.

One feature which will add to the attendance is the exceptionally low railroad fare. The best rate ever secured for a fruit growers' convention has been secured. Particulars next week.

Let every fruit grower plan to go.

WELCOME TO THE FLEET.

All California, and, in fact, all America joins in welcome to the greatest Armada which ever sailed about the world, back to home waters. When the news was flashed from San Diego Tuesday at one o'clock that anchors were dropped in home waters, bells rang, whistles and sirens blew and joy prevailed. Saturday afternoon all Los Angeles and Southern California generally will mass at the ocean front and shout and wave its welcome. Later Santa Barbara, Monterey and Santa Cruz. Then on May 6th San Francisco will extend another welcome. May the conquests of this fleet always be as successful as those it will make in California waters.

THE UNEMPLOYED.

There ought to be no scarcity o
the farmers this fall, because there a
men in cities who are anxious to find e
out on the ranch. Already the farm
ginning to call for help and the deman
will constantly increase as the season

In this connection let it be said it
remember that American help—we mea
in America—is better than immigran
cause it is more intelligent. It takes
educate the illiterate foreigners to do
work on our ranches that the farmer
time and suffers many inconveniences
ing him. The trend of the times being
to country it will be easier to get Ame
this season than for some time past.
week passes that we do not have some
Cultivator office asking either where h
competent labor, or if it be a laborer,
can find employment. So we conclude t
for intelligent labor is easier this seaso
and we like the idea of the American
to the American farm.

Shop Talk

THE CULTIVATOR has had many re
books devoted to "Poultry for Profit," a
ply this demand we have endeavored
gether some publications by good auth
the various subjects of poultry raising.

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gricultural Notes of the Pacific Coast

Northern California

arysville woolen mill has again ied.

ain crops in Tehama county prom- o be great.

odi predicts an immense fruit crop n that section this year.

pple vinegar works at Petaluma e recently destroyed by fire.

very indication points towards d fruit crops about Oroville.

here are now about 100 men at k at the State Farm at Davis.

uba City proposes to vote on the stion of municipal water plant.

any hop growers of Mendocino uproot their hop yards this sea-

he levee along the river above a City has been raised and wid- d.

apers of the Sacramento valley n chronicle the digging up of hop ds.

ot. dry winds have done damage wheat in some sections of the Sac- nento Valley.

he Ehmann Olive Company at Oro- e reports promise of an immense e crop this season.

Steps have been taken at Wyan- te looking toward the formation n irrigation district.

ver a million dollars worth of mage was done in the hills of Napa nty by the recent fire.

eople at Rock Creek, Placer coun- have organized a grange with out 20 charter members.

The night frosts of the last of March e said to have done no damage in e neighborhood of Gridley.

Water in the storage reservoir at oodland is within two feet of the pth of the same date last year.

The sugar factory at Hamilton City being enlarged so as to handle the tput of the 8,000 acres already con- acted for.

Commissioners of Sutter county ve appointed four sheep inspectors have charge of the sheep dipping that county.

The rainfall at Healdsburg this year p to the end of March amounted to .41 inches, which is the smallest to me date for many years.

Sutter county pear growers are ining willingly with the county Hor- icultural Commission in close prun- g in the hope of destroying the light.

Yuba City has a drastic ordinance hich calls for impounding of poultry unning at large. A penalty of 25 ents is demanded before any fowl is eleased.

Healdsburg grange was organized ver 30 years ago, and now has but ne of its original charter members, who is Mr. W. N. Gladden who is 80 years of age.

A better condition of the horticultural affairs of Butte county is hoped for through the perfecting of the Horticultural Commission recently recommended by Commissioner Jeffrey.

The lands near Oroville, which have been dredged for gold and were turned upside down and presented the appearance of a gravel bed more than of agricultural land, are proving to be fairly productive when orchards have been planted on them.

Central California

The Hanford cheese factory was burned last week.

Turlock orchardists are agitating the question of a cannery.

Mendota has an artesian well which gives a flow of about 40 inches.

Some fruit trees west of Tulare were injured by the frost on the first of the month.

Vast quantities of stock beets are planted on the west side near Los Banos.

Some injury was done to young growth in vineyards by frost about Fresno.

Farmers are generally very much concerned over the continuance of the dry weather.

Keyes, near Turlock, recently had a rabbit drive, at which 500 rabbits were slaughtered.

Porterville is to have another big packing house for its orange output before another season.

The supervisor of the Monterey forest has 17 men at work opening trails and establishing fire breaks.

Wine grape growers and hop growers of Santa Rosa are to organize for protection of mutual interests.

Fresno County Agricultural Association will hold a fair two weeks later this fall than last season.

A bridge over the Kings River near Laton recently collapsed with a drove of 60 cattle. None of the stock were injured.

Orchard City Grange at Campbell discussed the question of thrips and the damage they have done to prunes.

The Sperry Flour Company recently gathered many of its business managers and its salesmen in a convention at San Jose.

State Forester Lull will soon issue a set of descriptive leaflets giving information as to the different kinds of eucalyptus trees.

An injunction is asked against the Evans Ditch Company to prevent the cutting of a channel through certain lands at Hanford.

The Pacific Improvement Company, which owns the Hotel Del Monte, is soon to establish a large apiary on its lands near Monterey.

Some damage was done to blossoming fruit trees in the lower sections of the Santa Clara Valley during the latter part of March.

San Jose Grange is discussing the question, and has passed a resolution that the Federal government issue currency direct to the people.

The odorless onion of the Fresno county Chinaman is now declared to be a fake, pure and simple, originating only in the mind of a fertile newspaper reporter.

Rainmaker Hatfield failed to make good on his rain contract with the farmers near Crows Landing, and has been given until April 15; but in that time has to produce 4½ inches additional rain.

Dried apricots which were shipped some months ago to South Africa and which were charged duty of 25 cents per bushel because of their being classed as "peaches" have since been released and they are now declared to be in a class by themselves.

Southern California

Coachella has a rural postal delivery.

A new flour mill is to be erected at Fullerton.

These are busy days in the beet fields of Alamitos.

Highland will have a farmers' institute during May.

Simi valley is opening tracts of land for small farms.

One party has bored 24 wells in Perris during the past year.

Riverside claims a $2,000,000 hay and grain crop for this season.

Moorpark farmers are talking up plans for an irrigation plant.

Buaro pumping plants are busy pumping early irrigating water.

Oxnard beets planted some months ago are now in the best of condition.

The air of Southern California is heavy with orange blossom perfume.

Many new fire breaks are being constructed in the San Gabriel Forest Reserve.

A nurseryman at Brawley is planting 60,000 orange seedlings which will be budded another year.

It is estimated that one hundred acres will be planted to oranges this season on the Hemet tract.

Grain growers are wishing for the long-needed rain. It must come at once or it will be of no value.

Hay harvesting has begun in Imperial valley and the price has declined from $25 to $10 per ton.

New shipping sheds are being built at Imperial to be in readiness for the coming cantaloupe crop.

Bee Inspector Pleasants of Orange county examined over 700 stands of bees during February and March.

A rancher at Covina is suing the Covina Irrigation Company to compel it to furnish him with water.

The flood of the Colorado river is expected to be lower this year on account of lighter snowfall in the Rocky Mountains.

Southern California orange growers are inquiring what is meant by "California Brights" quoted as sold in Boston auctions.

San Bernardino and Riverside counties are alert to the fact that they must protect the forests on the water sheds of these counties.

North winds through some of the orange sections of Southern California took to the ground some of the riper navels and did slight damage.

Papers in Coachella Valley predict that alfa grass will revolutionize agricultural conditions of that section. It is used in the manufacture of paper.

The earliest shipments of cantaloupes ever made from Imperial valley was May 20th. This was before the bulk of the planting at Rocky Ford.

Many in Southern California are protesting against the lease granted by the government to a company of sheep owners for the use of San Clemente Island.

C. W. Leffingwell, Jr., who has so successfully managed the Leffingwell rancho for many years, has retired from its management in order to recuperate his health.

The Coast

Montana will observe Arbor Day on April 21st.

Mohair prices dropped 20 cents in Portland markets last week.

Corvalis, Oregon, will have a live stock show May 15th and 16th.

Seattle alfalfa hay has declined and is now being quoted at $8 per ton.

Stock growers of Montana will hold a convention at Miles City April 20th and 22nd.

A new apple district has been opened up in the Upper Hood River Valley, Or.

Large orders for fresh eggs from Alaska is stimulating the egg market at Portland.

A company has been formed at Bridgeport, Or., to irrigate the Port Columbia bar.

Seattle is predicting the greatest wheat crop which Washington has ever produced.

Sheep to the value of $1,400,000 were killed by coyotes in Eastern Oregon last year.

Wool growers of Oregon are appealing to the legislature to offer bounty for coyotes.

A large Oregon hop dealer predicts that prices next season will run between 9 and 10 cents.

Farmers of Eastern Oregon took keenest interest in attending the meetings of the fruit growers' special.

A recent order to the cattle men of Colorado to dip all cattle to rid them of the scabies, will cost them over $100,000.

The Grange at Moscow, Idaho, has placed orders for 150,000 sacks at a price which saved the ranchers over $3000.

Several thousand acres of land at Two Rivers, Washington, is soon to be subdivided and supplied with irrigation water.

Farmers in Garfield county, Colorado, have invested $10,000 in a flouring mill and will grind their own grain in the future.

Dairymen of Spokane met in session with inspectors of dairy foods and discussed matters of interest and ended with a banquet.

The government irrigation project in the Okanogan district in Eastern Washington, is nearing completion. It will reclaim 10,000 acres.

The managers of the Interstate Fair at Spokane plan for an agricultural gathering there this year which will rival the great State fairs of the East and Middle West.

The big factory of the Eastern Star Sugar Company at Glendale, Ariz., has been sold to the Detroit Trust Company. The price noted is approximately $1,000,000.

The granting of express freights to shippers of fruit in Washington, has enabled wider shipments of fresh fruits and as a local paper expresses it, allowed Northwestern fruit growers to compete with California.

Farmers in Washington find it a problem to learn how to get pasture on timber lands which have been cleared. A combination of blue grass, brome grass and orchard grass seems to work the most satisfactorily.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
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Eggs for Hatching

From Carefully selected purebred stock of

White Minorcas **White Leghorns**
Buff Orpingtons **Aylesbury Ducks**

For full particulars and prices on eggs and incubator chicks apply to

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The Jubilee Incubator

Has proven a winner. Ask the colonists who are using them.

Coulson's Special Chick Food and Egg Food
always in stock.

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Mammoth Bronze Turkeys One and Two Year Old Hens and Early Hatched, Well Matured Toms **For Breeding**

Well Bred, Carefully Selected Cockerels Good Style, Good Size, Pure White Birds **S. C. White Leghorns** Eggs for Hatching, Any Quantity Write your wants.

No trouble to answer inquirers. Satisfaction guaranteed.

Stuhr-Williamson Poultry Company
378 Bandini Ave. **Home Phone 149** **Riverside, Cal.**

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Profit in the Poultry Yar

We solicit short articles of a practical nature from the fancier and util breeder, giving their experiences with poultry. All inquiries pertaining to fee management, disease and its prevention will be answered through these columr

FERTILITY.

The humble egg hath virtues
  That in man we fail to see;
For like a thorn within the flesh,
  A man may often be too fresh,
An egg can never be!

AT THIS season of the year we hear a great deal about fertility. More than at any other season, for the reason many never stop to think of fertility until they get ready to set their eggs, and many even then don't stop to consider whether they have given their birds proper care and feed that should be given birds during the breeding season.

Only last week we were talking with a man who said he had bought a pen of birds at a long price; had give them the best care and feed, yet the eggs would not hatch. Said he believed that the stock was "no good," as the eggs would not hatch.

We explained as best we could some of the reasons why these eggs did not hatch. It was with this fancier as with many others who are breeding their first pen of thoroughbreds. They are so careful with them that they get them overfat; we have seen some people with their first pen feed them every time they went into the yard until they were so fat that they would hardly lay at all, then complain that thoroughbreds were no good. If you will keep your birds busy and not overfeed them you will find it will influence the fertility as well as the egg yield.

We quote from the Poultry Tribune on fertility:

We believe that infertility, as a rule, is due to one of two things, ignorance or gross indifference on the part of the breeder. The first is bad enough, but the complaint may be cured; if from the latter cause, the case is about hopeless. We have believed for years and we now feel positive that the breeder has the matter of fertility entirely within his own control. Fertility, like any other success in the poultry yard, depends not upon any one particular thing well done, but upon the carrying out of certain well planned details, which, for convenience in consideration, may be resolved into three groups, namely; robust health, congenial environment and proper food, assuming, of course, that common sense and good judgment have been exercised in the selection of a suitable number of birds for each breeding pen. The following number of females to each male in a pen is considered by many prominent breeders to be about the correct number: Leghorn, 15 to 20; (we think 12 to 15 are better.) Minorcas, 10 to 12; Plymouth Rocks and Wyandottes, 6 to 8; Cochins and Brahmas, 6 to 8; Orpingtons and Reds, 8 to 10.

The first two points of consideration—good health and comfortable surroundings—are so closely identified that one without the other is hardly probable. When the breeding pens are made up any bird with the appearance of ill health should be discarded. If those with the appearance of normal health are quartered in a comfortable house with plenty of sunlight they should be happy and contented and enjoy active, vigorous health, and that is the kind from which to expect fertile eggs. The modern poultry house, air tight or north, east and west, with open to the south, is ideal for lettin sunshine and fresh air so esse to the good health of the fowl. plenty of clean bright straw on floor and the sunlight and fres from the south, such matters wi found congenial to the birds and will be contented and thrive and continue in vigorous health if erly fed. Each pen should be plied with a shell box, a grit box a dusting box. The dust box sl be about four feet square, or 3x5 and should be kept half full of dust mixed with ashes or screene sand and ashes. For the mo meal we like whole wheat or scattered in the straw of the scr ing pen and at noon we give a of equal parts of bran, corn m shorts and scalded alfalfa mea mixing this mash it will be f most convenient to pour boiling w into a bucket, salt and pepper water, using red pepper, and stir a big iron spoon, then add the and stir into a crumbly mass. we are ready for the alfalfa which should be thoroughly w with boiling water fifteen or tw minutes before needed. Take part of the alfalfa to two parts o mash and mix them and feed clean trough in the proportion of quart to every twelve birds, si as a guide. Some pens require than others. Feed all they will in ten or fifteen minutes. When birds have eaten the mash we ready for what we consider the important item of menu for get fertile eggs, namely, well cooked meat ground up in a food cho three or four handfuls to each fed in the trough. If the meat is before the mash, the mash wil main uneaten, but even after the is full of mash, they will eat meat. See that there is alwa plentiful supply of fresh water, under such conditions and with treatment, there need be little a hension of infertility. In the eve feed whole corn, barley or wheat nately.

AROUND THE YARDS.

Vigor in the flock means eggs.

* * *

An infertile egg will not rot smell.

* * *

Inbreeding and loss of conditio frequent causes of infertile eggs

* * *

Dark-shelled eggs have proved er to test for fertility than shelled ones.

* * *

Have a system in feeding, bu that system contain as much of riety as possible.

* * *

Fowls should not be confined more than is necessary, unless are being fattened.

* * *

Eggs from pullets, unless the are well matured, are not often factory for sitting. They are infertile, and if they do hatch, chicks are puny.

* * *

Relative Value.

What is the relative value of scrap and green cut bone and

Suffering Hen
ce attack the vitality of an
ed hen so persistently that
is no "let up" in her misery.
will be a "let up," however,
ur profits, for no hen is suffi-
y vigorous to support vora-
; myriads of hungry lice and
lay eggs. Whether you sus-
the presence of lice or not,
is the time to begin to use

Instant
use Killer

ll kill them if present and prevent
oming if you don't have them.
le it freely about nests and roosts,
e hens with it and apply where-
ere is the possibility of lice har-
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ion of Dr. Hess (M.D., D.V.S.) and
ys lice on cattle, horses, ticks on
, rose slugs, cabbage worms and
on cucumber, squash and melon
. Comes in shaker-top cans and
be used winter and summer alike.
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ETALUMA INCUBATOR COMPANY
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esbury Ducks
ers at Crystal Palace and
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t the State Fair, San Jose
and Oakland, 1906.
State Fair and San Jose, 1907.
for sale and Eggs in season.
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Petaluma, California
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and Barred Plymouth Rocks.

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for free '08 Catalogue and price list.
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Satisfaction Guaranteed
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Orphington Eggs
atched to order. We have taken the ut-
e in procuring pure stock, also selected
'Hogan System". Visitors and corres-
e solicited.
J. Look No. 16 Hancock St.
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Comb - Rose Comb
E ISLAND REDS
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REDS The bird for the Farmer and Fancier.
Write for 1908 Mating list.
Red Feather Poultry Yards
Dr. C. E. Winslow, Monrovia, Cal. Send stamp for Red Standard.

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. $1 per 13, $5 per 100. Won 12 ribbons
Breeders Show on White Leghorns. Prize
, $2 per 13. All hens in our breeding pens
cted, 2-years-old, and are great egg pro-
son & Johnson, San Gabriel, Cal.
ric Car to Masonic Home then 2 blocks South

E'S RHODE ISLAND REDS
he World's best layers. Get our
older. Drop a postal to
hade San Bernardino, Cal

for laying hens. I can get beef scraps for four cents per pound and ground bone for five cents per pound. Which do you consider the cheaper? —B.

Green bone is the best food that can be given poultry, especially laying hens. It should be fed before it gets musty or tainted. Unless you can feed it fresh, beef scraps are better. Beef scraps are good, but we always had better results with green bone.

* * *

Incubator Room.

I contemplate building an incubator room, walls and ceiling filled with four inches of saw dust. Please tell me the best way to ventilate it? Would it be better without a window? Do eggs hatch better in a dark room? Would the ground do as well as lumber for a floor? Room 14x20 feet.—G. W. P., Hollister.

The incubator house should have a window in it for light; also a ventilator in roof to take off hot air. You should also put in a ventilator pipe to carry off foul air; this should be a tin or galvanized iron pipe, extending from about four inches above the floor out of roof. Eggs hatch as well in a light room as a dark one. Earth floor is all right if the location is a dry one, otherwise we would put a floor in it; it can be of wood, or better still, if made of cement. The unevenness of the dirt floor adds to difficulty in keeping machine level, which is essential.

PURE BREEDS.

The farmers who are careless regarding the kinds of fowls to keep pay well for their indifference. They may content themselves with the belief that "one fowl is as good as another," but they are governed by old customs and usages instead of experience. Compared with common fowls the pure breeds are more useful; they lay more eggs; some varieties come to maturity sooner; they are far more quiet generally; at maturity the cockerels make fine birds, and the pullets good winter layers. Flocks of common kinds noticed on some country places cause loss to their owners and are a drawback to any farm in these days of progress and improvement.

It costs but little to begin with pure breeds, and in one year the farmer can have a handsome flock of nice, thrifty, useful breeders that will give satisfaction and pay liberally for their keeping. It is for some reason difficult to overcome the prejudices of farmers against pure bred stock of any kind. Some of them even ridicule those who are progressive, but there would be no progress at all if enterprising men did not seek something better, year after year. Animals that bring high prices for breeding purposes combine utility and good breeding.

There is nothing fancy about them. They are bred for a purpose and for profit, and their owners know what to expect from them.—Inland Poultry.

OLD ROOFS SEEN NO MORE.

How many boys and girls on the farm today have ever seen a clapboard roof? Of course, some have, but a great majority of the young folks never have seen the old-fashioned clapboard roof, while only the old folks have actually made them or seen them made. Mill-made shingles long ago displaced the clapboard.

And now a much better roofing is rapidly displacing shingles. Shingles are costing more every year.

The best and most economical roofing, and siding also, to be had nowadays is "Rex Flintkote." This kind of protection from weather and resistance to fire, made by the old established firm of J. A. & W. Bird & Co., Boston, Mass., has been tested and proved beyond all question. It is a composition of long-fibre woolfelt and waterproof and fire-retarding chemicals. It is easily laid and looks well. The manufacturers will gladly send samples of Rex Flintkote, and a booklet.

Feed the Chicks and Kill the Gophers
West Coast Chick Feed
A full, rightly balanced ration for the little ones, to be fed dry. All pure feed, no filler, no waste. The biggest seller because the best made. Keeps them growing and healthy. For sale by many dealers; if not by yours send direct to us.
Bille's Gopher Poison
Is most attractive to gophers, squirrels, etc., but sure death. Endorsed by Agricultural Colleges and Experiment Stations. Has had the greatest success for years in the Middle West, and also here in California last season. Circular with many testimonials and Affidavit of 201 killed in one day. If your dealer hasn't it, send $2.50 for two bottles, (not less than two) express prepaid by us. Money refunded if not as represented—so printed on the bottle.
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5,000 MEN OUT OF WORK
Can feed a few hens on the scraps from the table and have eggs for the family every day in the year—but
Little Chicks should be fed on Excelsior Chick Food
prepared from clean, sound grains, seeds, beef scraps and charcoal in proportions to make a well balanced ration and produce strong, healthy chicks and keep them continually growing. For sale by all dealers and grocers. Take no other.
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RELIEVE POULTRYMEN OF HATCHING WORRY.
PEERLESS CHICK FEED
RAISES EVERY CHICK EVERY TIME
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PRODUCES PLENTY OF EGGS ALL THE TIME
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White Wyandottes Exclusively
Our strain have won in strong competition on the Pacific Coast
Day old Chicks, Incubator lots our Specialty, $15 per 100
Booking must be made in advance. Stock and Eggs For Sale. Send for our new Catalogue
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Trap-Nested White Wyandottes
That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribons, all at Los Angeles County Poultry Ass'n Show, Dec. 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah.
Mission View Poultry Ranch Mrs. C. D. Hubbard San Fernando, Cal.

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240-Egg Size, all complete, $15.75

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100-Chick Old Trusty Brooder, $5.50
200-Chick Old Trusty Brooder, $7.50

These machines will all be sold within the next 30 days. If you do not wish a machine at once, send a dollar and will hold any of them thirty days for you. Never again will you get a chance to get a machine at this price that is as good as the famous Old Trusty We must sell them. Now is your chance.

E. E. McCLANAHAN
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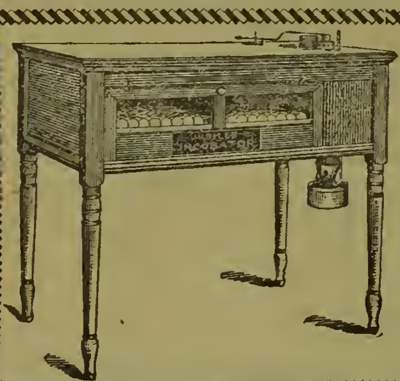

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SUCCESS NOW ASSURED BY USING
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We have something new for you. Send us your name to place on list for Catalog "J" being issued.
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Our birds are not the culls and accidents of the fancy breeder, but have been bred for generations for a definite utility type to lay both quality and quantity. They are selected by the Hogan system and mated by Standard requirements. Ready for delivery January 1st. Order books now open.
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WOMEN AND POULTRY.

There is no field open to women today that is less crowded than this, none that offers as good returns for one's labor, none that affords so much freedom when taken as a vocation, and none that makes one so nearly independent of others, says an Inland Poultry writer. Some of our best-planned poultry farms, as well as our best-paying ones, are the outgrowth of women's skill and ingenuity in planning and her financial ability in conducting the enterprise.

Most women show a qualification for neatness about poultry of which men are occasionally void, and as cleanliness is an important factor, she often outstrips our "lords of creation," in results obtained.

The care of poultry is productive of good health to women engaged therein, giving her sufficient exercise in the open air, and just enough of care and responsibility to make her work interesting and to make her feel her importance. This field for women is almost unlimited, and it pays her better profits than she can reasonably expect from most other business ventures.

When all things are considered, there is no agricultural industry known that furnishes so unlimited a field and pays so large a profit on the capital invested, and none that requires so little labor as the poultry industry.

SUGGESTIONS FOR PRESENT DUTIES.

Many poultrymen have now finished hatching operations for the season and are desirous of keeping the chicks in a healthy growing condition. The writer has kept poultry for nineteen years or more and in his contributions to the poultry press has sought to be practical rather than theoretical. He has learned by dear experience that success in the poultry business depends upon strict attention to details and a readiness to do the right thing at the right time, says a writer in Successful Poultry Journal.

The successful poultry raiser does his best to protect his flock from enemies. He must wage a persistent and relentless war against all their foes. It is perhaps almost needless to say that the most deadly foes of poultry are lice and that it is in the summer months that they do their deadliest work. Small chicks should be frequently and carefully examined to see if they are free from insect pests. Head lice are especially destructive to small chicks and are rather difficult to see, but their presence may be easily discovered if one wets the tip of his fingers in kerosene and lightly rubs it over the head and throat of the chick. If head lice are there they immediately loosen their hold and prepare to retreat. A very slight (and it must be slight) moistening of the head and throat of the chicks with kerosene oil in which moth balls or naphtha flakes have been disolved will relieve the chicks of these pests, or one may use some of the lice ointments sold for this purpose. If there are body lice upon the chicks they can usually be found under the wings and around the vent and one large variety prefer to remain on the feathers of the neck. All species of body lice are killed by dusting with some good insect powder. The coops and houses should frequently be examined for red spider lice and sprinkled with the kerosene and naphtha flake solution or some

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The strongest and best ever produced i
it precedes all others in pumping. A f
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FOR SALE
Five dozen well-bred, Great
White Minorca Hens. One
$15.00 per dozen. Five males $
S. W. Morgan
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Black Minorcas
Exclusively
"Birds That Lay and Win"
Winnings at Los Angeles, 1908: Cocks, 1, 2, 4, 5; Cockerels, 1, 2, 4, 5: Hens, 1, 2, 3, 5; Pullets, 1, 2, 3, 4, 5. Pens, 1, 2; Cup for highest scoring Minorca male in show. Stock and eggs for sale. Catalogue free.
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I have for sale some extra choice
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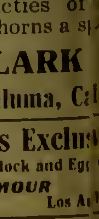

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All the leading varieties of
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Good, White, Typical Birds. Stock and Eg
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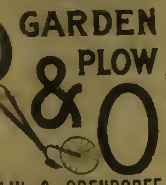
nt, John Schilling, Jr., Davies Warehouse
d Central Ave., Los Angeles, Cal.



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commercial lice killer. We like once a year to whitewash all coops with whitewash in which has been stirred a little chloride of lime or crude carbolic acid which makes the whitewash a better disinfectant and more destructive to insect life. One cannot raise fine chicks and allow them to be infested with lice. Coops and houses must be kept reasonably clean and some arrangement should be devised to keep them well ventilated and prevent them from being overcrowded.

My bill of fare for little chicks is bread and cracker crumbs, rolled oats and a chick feed composed of a variety of fine cut grain. After they are three or four weeks old they are fed wheat and cracked corn and then oats as soon as they are large enough to eat them. Sometimes we feed barley instead of oats. When small they are occasionally fed beef scraps and as they grow older they are usually allowed access to all the beef scrap, oyster shell and grit they care to eat. We used to feed one meal a day of mash during the summer to old fowls and chicks but recently have quit feeding mash during the summer months. The writer's chicks have generally had grass range but when that has not been possible they have been supplied with lawn clippings, lettuce, cabbage, Swiss chard, clover or some other kind of green food. We grow the largest breed of fowls and manage to make them average over Standard weight, and have had Light Brahma cockerels that weighed 13 pounds before they were one year old and pullets that weighed 11 pounds and over when sent to the winter shows. This has been accomplished by breeding for size and keeping the chicks growing. With some varieties of fowls it is best to separate the sexes when the chicks are about half grown in order to prevent the cockerels from worrying the pullets. Brahmas of both sexes have often been allowed to run together until nearly mature but our Light Brahma Bantam cockerels have to be put by themselves when about four months old and we have found that fowls of the Mediterranean and American classes need about the same kind of treatment.

SMALL GRADERS POPULAR.

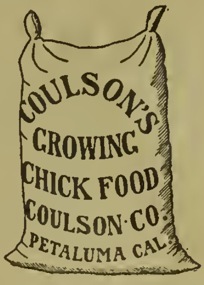
The day has surely dawned when the demand for the small grading machine must grow rapidly. All over the United States there is springing up an insistent demand for something which will take place (in 75 per cent of the cases) of the large, heavy graders. The big machines demand a large investment and the use of several men and from six to eight horses.

When a machine like the 20th Century Grader made by the Baker Manufacturing Co., Chicago, Ill., is put in competition with the big machines, road officials, highway commissioners, irrigation farmers, railroad builders and others find that the cost of operation is very materially reduced.

The 20th Century Grader weighs only 600 pounds, is made entirely of malleable iron and steel. It requires usually only two horses. In a few cases four horses will be needed. One man can handle it.

The Baker Manufacturing Co., have just issued a handsome free booklet in orange and black entitled, "20th Century Highways." This book describes up-to-date methods in road making, gives bona fide communications from recent users and letters from all classes of officials. It has an insert in the center giving a large half-tone view showing every part of the grader. This cut is eight inches long.

Every man who is interested in grading of any nature, whether road men, irrigation farmers, send for this brand new booklet fresh from the press.



Coulson's
Growing Chick Food

After hatching your chickens and raising them successfully up to 5 or 6 weeks old, they are worth something to you, and every one that dies now is a distinct loss in the cost of feed you have used, as well as the cost of hatching and subsequent care of them.

Therefore, in deciding what feed to use now that they are getting too large for the baby chick food, you must exercise the same care as before, to give them the best.

The Best Feed with the Least Labor

Is what you want and that is where

Coulson's Growing Chick Food

comes in.

Coulson's Growing Chick Food is rich in protein, owing to the meat and bone it contains. The grains and seeds in this food are not all ground up, a portion being granulated, so as to give their digestive organs sufficient work to insure health. The food contains a large variety of ingredients, which furnish the growing chick all it requires for quick, healthy development.

COULSON'S GROWING CHICK FOOD is especially adapted for feeding dry in hoppers, as well as dampening as a mash.

THE HOPPER STYLE OF FEEDING HAS NUMEROUS ADVANTAGES:

COULSON'S GROWING CHICK FOOD can be placed in a hopper in sufficient quantity to last for several days. If this hopper is properly constructed there will be no waste, and the consequent saving of labor in feeding is large. The chickens thrive amazingly well on it, and are kept in the most healthy condition, as with the dry feed always with them, they have no desire to gorge, with consequent digestion troubles.

Many have hesitated about trying this method of feeding by reason of the cost of the hoppers required. A good hopper for dry feeding can be made by any one at a very slight expense. We will be pleased to furnish a simple method of making these hoppers, free of charge to you.

Try the Dry Feed Method

with

Coulson's Growing Chick Food

and we are sure you will never use any other.

COULSON'S GROWING CHICK FOOD can be used for chicks from 4 to 6 weeks old up to 3 months old, when COULSON'S EGG FOOD or IMPROVED MASH EGG FOOD should be fed them.

If your dealer does not handle COULSON'S GROWING CHICK FOOD, write to us and we will tell you where you can get it.

Coulson Poultry and Stock Food Co.
PETALUMA, CALIFORNIA.

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We trap nest our hens. Why set from poor layers? Bird laying qualities are
Inherited the same as any other. This year we have discarded all old matings
and have gone to the next generation. Cocks have 9 generations of 200 egg
mothers. Hens all from 200 egg mothers and from cock with 6 generations of
200 egg mothers, and are layingfine. We have divided into pens according to
the way they are showing up in six months laying. $2.50 for 13 eggs from first
pen. $1.00 from 2nd. until they have time to make longer records. (Except
from our one best, not for sale. We claim the world's Barred Rock, 6 months
laying record for this one.) Do you wish to hear about our prize winning Buff
Orpingtons and Silver Wyandottes? We have something to crow about. No
Sunday sales or visitors. Wm. Starbuck & Son. Fullerton

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U.S. CREAM Separator

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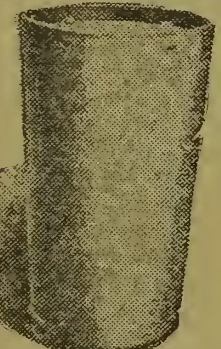

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For Milk or other products of the dairy; instead of boxes for honey, etc.

Use Sterilized Paper

Non-breakable; liquid-proof; saves washing or hunting empties; customers pleased to find contents sweet and sanitary. Paper stoppers are good, paper sides and bottoms are better. Cheaper, too.

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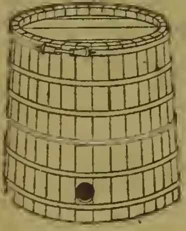

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Water Tanks, Wine Tanks made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

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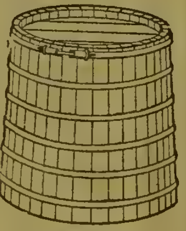
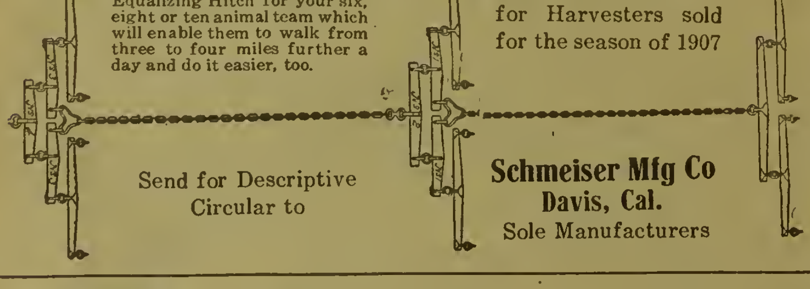


Water Tank

The Schandoney Equalizing Hitch



Wouldn't it pay you to have an Equalizing Hitch for your six, eight or ten animal team which will enable them to walk from three to four miles further a day and do it easier, too.

350 of these Hitches for Harvesters sold for the season of 1907

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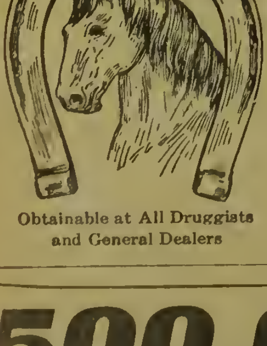

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Live Stock and Dair

THE DAIRY TRAINING.

NOT for the cow alone, but for both man and cow this training is needed, if the best results are to be secured. In California the dairy owners do not often attempt to do their own work; if they take any actual part in the work, it is not the milking. That is left to the hired milkers. The milkers employed around this neighborhood are Portuguese, Swiss or some other dark race; my men for years were "Moors" from the islands off Spain. The dairy in California does not, therefore, mean a small place worked by the family. Rather it means larger resources and a liberal income. The milkers employed as a class represent the best men on the ranch, they are steady, hard-working fellows and give less trouble than other help. I think, perhaps, it is because they do one thing only. The multiplicity of duties makes men of limited mentality less ready at the work in hand. I often wish the other departments of ranch labor could be filled with as good men as the milkers .

Training.

Rarely is the ranch foreman fitted to guide the men to the best advantage in their work. The lesson for the dairy farm is prompt work and on time! The fruit and general farmer often has no idea of what can be done in a given time when he begins his work, no schedule of work planned. The item of time enters into ranch work intimately. The work should be mapped out and so many weeks allotted to each portion, then if at the end of any week the work has fallen behind, but on more men and more teams and pick it up and push until you are a week ahead of time. The seasons will not wait and in our contract with Nature the legal term, "Time is the essence of this contract," stands out plainly.

Nature will not accept any legal quibbles to help you escape the penalty. Time can be made by not trying to do more than can be well done with the tools, time and money at our disposal. Intensify rather than diffuse your efforts. Learn to eliminate the unimportant and do the essential before putting on frills.

The application of this to the dairy? Now is the time to push the planting of corn and sorghum crops, and to plant plenty of pumpkins and do it quickly. The idea of buying anything you can grow yourself should shock you severely. It should send cold shivers down your spine. This is profitable farming.

Breeding.

The dairyman can, in a few short weeks, acquire a whole education from the government bulletins on the topic of feeding. When you secure a new idea put it to work at once. Don't salt it down for next year. You will never have more time than you have today. These government bulletins are sent for the asking, and only for a few is there a nominal charge made of five or ten cents. After reading on the subject, probably the first actions will be the introduction of new improved blood. The purchase of a well bred sire and raising of the heifer from the cross. This is the cheapest way to improve the breeding of the herd. A registered cow will give in her life of fourteen years, probably not over twelve calves and if six of these are heifers we have about the full increase. While the si e easily give fifty calves a year, f are heifers that makes twent year or three times and half a in one year as the registered c duced in her life time.

Culling.

The original cows were pro t all types and classes; now aft are culled out there will be a ce per cent of the offspring that are even in the third and fourth ge tion. These cows are dried off sold to the butcher, usually bring sufficient for beef to mee cost of raising them, for they young and fat when sold. The ference between a fancy bred cow and the ordinary run of co very marked. Prof. H. H. De Ontario writes as follows on point. "We have in our stable stein which has produced 2522 of milk in 30 days, within 500 of the average annual produ cows of Ontario and Qu seven days she gave us 643 po milk. If we had cows like tha would be no trouble about plenty of milk to drink. A man not afford to keep cows that pr only 3000 pounds of milk in a y

Feeding.

While the new blood introd c these grade heifers will increa production of the cow, we in must expect to increase the used. At least, we must inc the digestible contents. Whil cheaper mother cow gave milk t full capacity on straw alone be her milk capacity was not abov available nutriment in her feed. the same as though we have a engine that occupies a space many feet; that is, say, te power, now we move it and put twenty-horse power that occup same space. We can put a lo that amount to be driven by the engine or double the ar the first engine could move. when the larger engine starts off the gang plows we at once fin while we have added at least d the number of plows to its loa are also burning much more oil the work, The graded up heife the same increased capacity i body that the larger engine ha we must feed her, i.e., furnis much more fuel if we woul out the full capacity of the cow feeding of animals must bear tive proportion to their weight.

Rations.

Wolff of Germany was the call attention to the great wa feeding cows. That often wa knowledge of the proper proport foods, an expensive article of could be replaced with a cheap and fully as good results be ob Taking as a unit the weight living animal at 1000 pounds, Wolff figures that dry matt pounds in weight, protein 2.5 hydrates 12.5 and fat 0.6 as a dai quirement. Then it was consi that a larger cow should have and a smaller one less. The cal feeder soon found out that production rather than bodily w that governed the amount of f cow could profitably handle. Some could do well on more concent food than others. The balance tion, therefore, is to be used indicator rather than a fixed While it would be impossible to

ood Sole Boots and Shoes

wish to call your attention to the fact we have a large stock of Wood Sole ts and Shoes of the very best quality. Uppers are made of the very best ity Milwaukee Oil Grain. The Soles well-shaped, and are an exact and fortable fit, and our ***Patented tening*** makes this a ***Waterproof*** e. We all know wood is a non-con- or, consequently it is much drier and eat deal ***warmer*** in Winter. They lighter than Rubber or Leather Shoes Boots. Shoes, $2.00; Boots, $3.25.

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re given the preference by 80% of al'ornia stockmen because they ive better results than others do. ite for prices, testimonials and our v booklet on Anthrax and Blackleg

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ve for sale a number of richly l young bulls, some of them n cows that have high official rly records.

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beautiful young bull combining the best lden Lad and St. Lambert blood. Win- of 3 first prizes in 1907. Fit to head y herd.

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each cow in the dairy and then feed her exactly to the pound the ration on which she produced the best, we can come at it in another way. The other road is along the lines of breeding the cows alike. A herd that is of one breed is, therefore, more economic to feed than one that is of mixed breeding. The man, therefore, that raised his own heifers has less of a feeding problem than one that buys his cows from a drover.

Water.

I believe that the milk production of the ordinary family cow is greatly curtailed by lack of water. I have watched the cows drinking and find that fully half of them do not take a drink until after they have eaten, none drink enough to be free from thirst later than nine o'clock. When a cow is watered at milking time, then at noon and at night she probably does not drink more than half of the amount she would if given free access to water all day long. Comfort and cleanliness go next in making the cows happy. A happy, frisking herd of cows is a joyful sight, one knows they are well contented when they put their tails up over their backs and run and try to kick up their clumsy heels. It is amusing to see how they resented the first time the auto ran by the pasture, everyone chased after it along the fence as hard as they could go and stood lowing as it went out of sight. These cows were comfortable or they would not have cared what went along the lane.—M. E. Sherman.

BREAK OFF THE BOAR'S TUSKS.

A boar is provided by nature with very good weapons which he uses with fatal effect ofttimes both upon man and beast. These weapons are the four large tusks, one upon each side of each jaw. These are very sharp, and their growth is rapid, often three or four inches in a year. These tusks are not at all necessary to either the life or health of the boar, and it is a great deal safer for all concerned to keep them short; particularly at this season of the year, when the breeding is nearly over, does the boar become unruly, and this is a good time, therefore, to break off his tusks.

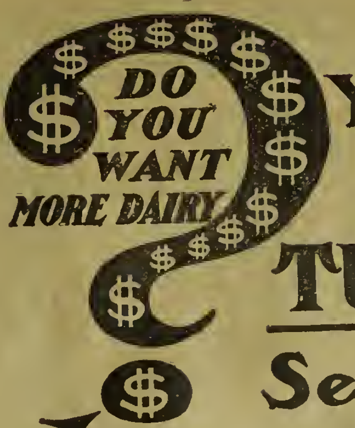
If he is not ugly, this may be done while he is serving a sow, by simply clinching them in pinchers and bearing downward and outward, or upward and outward upon them as the case may be. The tusks are very hard and brittle and break easily.

If the boar is vicious it is best to put a slip noose over his nose, back him into a corner and fasten the rope to a post, or anything of the sort that may be near at hand. Then while one man holds his nose up by means of the rope, at the same time pressing against the animal with his knee to keep him where he belongs, the other snaps off the tusks.

If the breaking of the tusks is attended to every six months, as it should be, much less injury to man and beast will result.

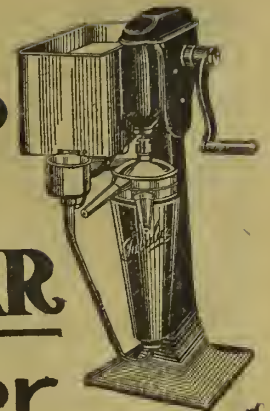
A cow has an affection which she will usually give to the one most attentive to her. She will give her milk to this one better than to anyone else, and to secure the best results he should milk her regularly.

It has been discovered that farms near Elgin produce twice as much as farms in other parts of Illinois. This simply proves the old statement that dairying increases the fertility of the soil.



DO YOU WANT MORE DAIRY $

THEN YOU NEED A TUBULAR Separator



The answer to the question is in no doubt.

Everybody does.

The way to have more Dairy Dollars is to get a Tubular Cream Separator.

The reason for this answer, and the proof of its truth, are in the experience of Tubular users.

Dairymen and dairywomen everywhere have been gaining good Dairy Dollars with the Tubular. Some had no separators before buying Tubulars, others had some other make. ALL gained, however, in money, or saving of work or both, when the Tubulars were put in—they get more Dairy Dollars.

Making Twice as Much
NORTH BUENA VISTA, IOWA,
Feb. 8, 1908.

Before we bought the Tubular we had a——. Did not like it. We are now making just twice the amount of money we did before KARL KOCH.

One-Third More Butter—Less Work
MANSFIELD, OHIO,
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Bought one of your Tubular separators last August. We make one-third more butter than by hand skimming, and no crocks to wash.
MRS. GEORGE HENRY.

The average gain, from average cows, with a Tubular separator is one pound per week, per cow, compared with raising cream systems.

Are you interested in this sort of gain of Dairy Dollars? Wouldn't you like the success that is shown in above letters? Don't you want a pound of butter more, per week, per cow, than you are getting from pans? Don't you want butter gain and less work, if you have a separator?

Write for Tubular Catalog No. 260 illustrated explanation of why the Tubular does better than other separators, how it is different, easier to operate and clean, scientific and mechanical reasons for Tubular superiority, and some testimonials from Tubular users.

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MILKING MACHINES

that easily and cleanly milk 20 to 25 cows per hour are found in the perfected and practical

Mehring's Foot Power Cow Milker

which has been in actual use in some parts of the United States for 6 years and on the Pacific Coast for 2 years. The price of Milker complete is $110, net cash, and is doing the same work for one man as some "power" machines costing six or seven times as much.

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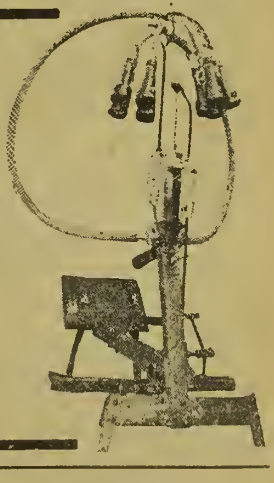

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Made of Coal Tar Creosote Oil. Great caution must be exercised with Carbolic, Petroleum, Sulphur-Lime and Tobacco dips. And none of these can compare in effectiveness with Cresol Dips, which are perfectly harmless.

West Coast Dip is guaranteed to be made from Oil containing 25 per cent Cresylic Acid. Permission was given by the U. S. Dept. to use our Dip for the treatment of Sheep Scab in the highest dilution ever allowed. When thus diluted it costs but a few cents.

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BIG BUTTER CONTEST
National Buttermakers' Association
WON AS USUAL BY USERS OF
DE LAVAL
CREAM SEPARATORS

On March 11th, 12th and 13th there was held at Minneapolis, Minn., the big annual butter scoring contest of the National Buttermakers' Association. 504 of the best buttermakers in the United States competed in this contest, which makes the results especially interesting and important. The first prize was won by J. C. Post, Hector, Minn., with a score of 98 per cent; the second prize by E. O. Blomquist, Center City, Minn., with a score of 97½ per cent, and the third prize by G. P. Sauer, East Troy, Wis., with a score of 97 per cent. All three of these victorious buttermakers, of course, use De Laval cream separators. This contest, as has every similar contest held within the past sixteen years, shows a complete victory for butter made from De Laval separator cream. A clean sweep of all highest prizes was made by De Laval butter at the big National Dairy Show held in Chicago last October, as well as at sixteen of the more important State fairs of 1907. Going further back, De Laval made butter received the Grand Prize at the St. Louis World's Fair, as well as the Grand Prize at the Paris Exposition. Invariably in these big contests more than 90 per cent of the contestants who receive a score of over 90 per cent on their butter have been found to be De Laval users. In hundreds of such contests the world over during the past twenty years, the superiority of the De Laval Separators over all others for making fine butter has been conclusively proven. A postal card will bring our handsome new catalogue illustrating and describing the new 1908 improved De Laval machines in detail, and affording a complete education in the production of the finest quality cream for making prize winning butter.

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MULE-FOOT HOGS.

These hogs were guaranteed to me to be cholera proof, and after subjecting them to the most rigid tests, I have no grounds on which to dispute the statement.

Through the department of agriculture, at Washington, D. C., we learned that they were bred in the west. By correspondence with our Western friends, we learn that their origin is practically unknown and they say after a careful search of several years they fail to find the South Sea Islands, or any other islands or country whose history gives any account of the Mule Foot hog, except one writer who claims they were brought to this country in 1637 by the Swedes and landed on the coast, now the State of Delaware. The author of the Ozart hog claims they originated from the Texas Peccary. The Pecarry has a split hoof; the North American wild boar has a split hoof, and every specie of known swine has a split hoof except the Mule Foots; therefore, we claim their origin unknown.

It would be very gratifying for me as a breeder of Mule Foot hogs to be able to say to the inquiring public that their origin was thus and so.

It has been my pleasure to see a bunch of hogs the sire of which was Mule Foot, crossed on Durocs, Chester Whites and Poland-China, some of which were full bloods, and I find from 75 to 90 per cent were Mule Foots. From Chester Whites they were white and black; from Durocs red and black, and from Poland-Chinas almost solid black, but all had great length and large bone; strong resistance against disease, strong breeders and good feeders, fattening at any age, is the record made and sustained by the Mule Foot hog.

Description—In its general makeup it resembles the Poland-China, though attaining greater length. The best specimens fully as mellow, lacking only in width and shortness of legs. In color black. In the central and western States some white is permissible; they are better in bone and will carry more weight without breaking down in the foot than the average of other breeds. They are kind and gentle, good mothers, and are very prolific.—George W. De Hart, president Mule Foot Hog Record Association.

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The best profit in dairying comes from the manufacture of strictly first-class butter for private customers.

If the cream is a few degrees too warm or if the churn is not stopped at just the right time the grains of the butter may be seriously impaired.—

According to Henry, a sucking calf should gain three pounds per day for the first month, two and a half pounds per day for the second month and two pounds per day for the third month.

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op the Loss in Irrigation

Written especially for the California Cultivator.

E. O. THOMASON, COVINA.

YONE must be impressed the vastness of the arid s of the west. There are in d States 550,000,000 acres of ds. Blessed with soil and hese arid valleys lie in re- iting the day of, a people nius shall break their bands gy and awaken them into ctivity.

on, directed by scientific s and upheld by modern me- knowledge, will afford the en to us this new and untold vealth.

owledge of irrigation and its has not originated in our has been known from the period of antiquity. Irriga- practiced by ancient dwell- ne Ganges, the rivers of d the Nile. Irrigation was o the soil on the banks of the motely as the days of Virgil. ural overflow of the Nile and dant benefits was doubtless he first object lessons, and suggested to the ancients ficial overflow would also be l to their crops.

Development is Modern.

val races, however, lacked information, nor were they by mechanical inventions to p the clue afforded them by mitive knowledge of irriga- rigation, therefore, as an ex- nce, must be considered mod- fullest development can be ished only with the use of s and mechanisms of modern n recent knowledge.

n science gives great advanc- the cause of irrigation in sup- he knowledge of material so as concrete and so infinitely as the same when "rein- Modern invention supplies ep-well" pump, and affords ower for its operation. With litions of our time, it may as- be predicted that the immed- re will witness great achieve- n irrigation development.

nes of Development.

developments will be made two important lines. First: elopment and conservation of supplies. Second: The con- n of conduits capable of carry- er with minimum loss.

irst line of development is in- able in importance. To the ienced observer, the import- the second is possibly less ap- and, therefore, merits our care- sideration. To obtain the full- efit from water supplies, the wasteful ditches should be dis- d And such ditches should aced by conduits which will loss of water, from seepage aporation.

Drop Needed.

irrigable lands where "Water and where the most abund- s are possible with irrigation, efi to be obtained are in pro- to the amount of water judi- applied, and every drop of needed by crops but wasted by tion or seepage from ditches, a positive and direct loss of and money.

n the seepage from large canals becomes a menace to orchard ld, not infrequently taking the of a body of surface water l upon or too near the surface land.

Losses.

give an idea, obtained from act- its, of the serious loss of water g in earth ditches, we quote the sion of M. G. Carpenter profess- ivil and irrigation engineering of ado Agricultural College, Bulle- . 45: "With ditches in heavy here was usually a loss equal to th of three inches over the canal each day. In sandy soils some degree of clay the loss be two feet a day, and in some where there was gravel bottom ss became many times greater. f the old canals in the suburbs of y was found to loose at the rate enty-seven feet in one day."

aking of loss of water by seep- nd evaporation, Samuel Fortier, an experienced engineer writing in the Irrigation Age recently stated that "of the millions of dollars annually expended by our irrigation districts for water and for applying it to cultivation crops, fully seventy per cent of the money is wasted."

Evaporation is Great.

An atmosphere dry and heated, such as will be found in summer in arid and semi-arid regions, offers great facility to evaporation. Water running in an open conduit will waste by evaporation at a surprising rate.

In the summer of 1899 the writer with his family was camping in the mountains in Southern California, by the side of a small stream of water. There were perhaps twenty-five inches of water. This stream ceased absolutely to flow each morning about ten o'clock, but resumed its flowing in the cool of the evening or about sundown. This cessation of flow was found to be due to evaporation, which was sufficient by ten o'clock to take up the entire stream. By sundown the evaporation was so arrested that the stream resumed its normal flow.

Having had a number of years of experience in irrigation in Southern California, we have often noticed the increased night-flow of our irrigating streams due to arrested evaporation at night. It is a fact, also, that all of our fountain streams rise very appreciably, in the cooler autumn months even without rainfall.

One of the authorities quoted above states that, as a rule, cultivated fields do not receive more than 66 gallons out of every 100 gallons of water which pass through the upper head gates, the rest being lost by seepage and evaporation. Attempts have been made to prevent loss of water from irrigating ditches by lining them with clay, road oil or concrete. These attempts have been attended with more or less favorable results only as to seepage, the loss as to evaporation, however, remaining undiminished.

Materials.

Prevention of loss of water from these two causes is being accomplished by the employment of some form of pipe conduits. The materials which now offer themselves for use in the construction of these conduits are wood, clay and concrete. Owing to the presence nearly everywhere of sand and gravel, which forms the greater bulk in the makeup of cement (or concrete,) this latter material is considerably cheaper. Concrete is the only material which grows better with age. This material has been used in Southern California for about 20 years and shows improvement rather than signs of decay.

The Azusa Irrigating District furnishes a splendid example of the husbanding of water supply by a pipe system. This company, located in Los Angeles county, owns 4000 acres of orchard and garden lands. Prior to 1893 it had earth ditches cut through clay, gravel and sandy soils. The end of the district farthest from the water supply, made little attempt at orchard planting, owing to the fact that at the time of low water the supply would scarcely reach that end of the district. In 1893-4 a splendid system of cement pipe lines, with a few miles of vitrified or clay pipe, was constructed at a cost of two hundred thousand dollars.

Saved Orchards.

In the dry seasons that immediately succeeded that time, the system was worth directly to this district all that it had cost. It was the means of saving valuable orchards that would doubtless have dried up but for the pipe lines. Since this system has been in operation, this entire area has been kept in a high state of cultivation, there being the utmost assurance amongst the owners that water will be flowing.

Other irrigation districts have had like experience. An irrigation district newly formed should install the pipe system. This is especially true if the water is limited or if it is an expensive supply, such as is obtained by pumping. A pipe system is the only system that will deliver all the water to the land at remote parts of the district.

Classified Liners

EGGS FOR HATCHING.

ORPINGTONS, BUFF AND BLACK. THE winners of the lion's share of honors at the Los Angeles County and Breeders' shows this year. The birds that win in the keenest competition and lay eggs all the year. Birds that pay as they go. Handsome catalogue free. Guaranteed fertile eggs in any quantity. Proven breeding stock very reasonable. Write today. Orpington Reservation. ROSS & TATE, Altadena, Cal.

EGGS FROM MY PRIZE WINNING BARred Rocks; won all firsts, all seconds but one, and all specials on Barred Rocks at L. A. C. P. A. Show, 1907. Eggs from best pens, $3 per 15; $12.50 per 100. Stock for sale. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

FOR SALE — WHITE WYANDOTTE EGGS for hatching from 2 extra choice pens; I have been breeding these birds for the past 5 years for the best possible results; eggs, $1.50 and $2.50 per setting. A. W. HUSKINS, 713 Waterloo St., Los Angeles. Phone, Temple 948.

BARRED ROCKS A SPECIALTY—I CAN supply eggs from strong, vigorous birds barred to the skin and correctly mated for $1.50 and $2.50 per 15. Incubator lots a matter of correspondence. ENOCH CREWS, Darwin and Broadway Sts., E. Santa Cruz, Cal.

S. C. WHITE LEGHORNS—THOROUGHbred; 200-egg trap nested strain. $1.50 per 15. Indian Runner ducks, $1 per 12. Roosters and cockerels for sale. A. HENRY, "The Foothills," Orchard & Poultry Ranch, Rumsey, Cal.

HART'S BRONZE TURKEYS ARE KNOWN the world over; are unexcelled for size, hardiness, beauty of plumage and early maturity. Eggs for hatching $5.00 setting, $35.00 per 100. ED. HART, Clements, Cal.

BUFF ORPINGTON AND WHITE Rocks, $2.00 per sitting, $6.00 per 100. Indian Runner ducks, $1.00 per 12, $5.00 per 100. First class stock. WYATT & WOLLITZ, Fern Park Poultry Ranch, Corona, Cal.

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EXCLUSIVE—EGGS FROM PRIZE WINning stock; Single comb Rhode Island Reds, $1.50 per setting. See my birds. H. P. SHEETS, Pomona, Cal.

EGGS FROM THE SECOND PRIZE PEN of White Rocks at Breeders' Show, $1.50 per 15; $2.50 per 30. J. W. WHITNEY, R. D. No 2, Long Beach, Cal.

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THOROUGHBRED BARRED ROCK eggs; pens headed by cocks from Bemis' prize winners, $2.00 per 15. A. E. WARD, Kenwood, Cal.

BROWN LEGHORNS—PRIZE WINNERS—Eggs $1.50 and $2.50 per 15; $5 and $7 per 100. MRS. C. H. VARY, Pomona, Cal.

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FOR SALE—ROSES, FIELD GROWN AND grafted; two-year-old plants. Will sell in large lots at a bargain before potting them. H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

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BLACK MINORCAS OF QUALITY—A Choice lot of large size cockerels bred to standard requirements. A rare chance to get an excellent breeder $2 to $5. One pen mated up for my own use of finest high scoring female specimens and layers, standard weight and over, to a grand cock bird which headed Geo. H. Northup's first pen last season.. A few settings to spare at $3.00. J. P. McDONOUGH, Geyserville, Cal.

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FOR SALE—WHITE WYANDOTTE CHICKS, 100 coming off in 2 weeks from 200-egg strain, at 12½c; baby chicks accompanied by gentle mother hen at prices you pay for eggs; 4 vigorous cockerels, $2.50 each; or $9 for the lot. B. KOBELT, Petaluma, Cal.

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FEATHERLY FARM BUFF, BLACK, White Orpingtons. The greatest prize winning and heavy egg laying strain in the WEST. Free catalogue of matings. PERCY HARLEY, Redlands, Cal.

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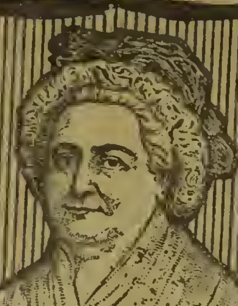
HOGS.

FOR SALE — ONE YEARLING REGIStered Poland China boar; one yearling grade boar, good breeder; cheap. Some good sows, both registered and grades; also young pigs. Call, or write J. L. TUMMOND, Buena Park, Cal.



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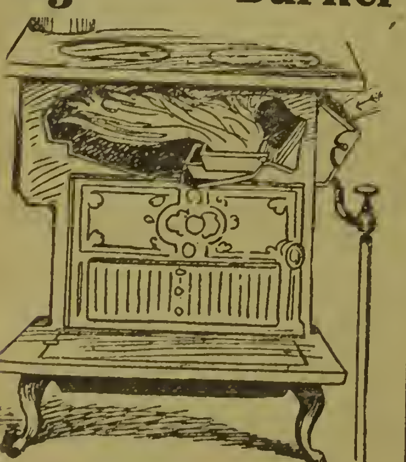

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Household Department

EASTER CHIMES.

"The Lord is in His holy temple," steals
Through vaulted arch and nave and chancel dim,
And loud the swelling answering anthem peals
"Let all the earth keep silence before Him."

"Let all the earth keep silence" do they say?
But hark! the winds of Heaven sough and sing,
The thrushes chant, the dancing tree-tops play,
The glad earth is rejoicing in her spring.

The vaulted skies in festive blue bend low,
The feathered choristers, in glad thanksgiving,
Lilt their gay matinals as though
Their hearts would break for very joy of living.

The west wind rises in a wild-excelsis,
The violets swing their incense to the skies,
The poppies hold their golden chalices,
To hear the words: "Behold, I will arise!"

The roses, shedding soft, pink petal-showers,
The lily-bells and cherry-blossoms say,
"Not silence, for this moment's grace is ours
To sing: 'Rejoice, the Lord is risen today!' "

—Sunset Magazine.

HER EASTER OFFERING.

IT WAS only an egg,—not a pretty one at that, for the dye had streaked, and showed glimpses of the white shell under the purple covering. It was because of this that Pollie happened to get it. She had passed a house, on Saturday afternoon, where a flock of merry children were having an Easter-egg hunt, and their gleeful shouts attracted the little stranger's attention, and made her stop to look on awhile.

How pretty the children looked!—like Easter eggs themselves, Pollie thought, as she peered between the pickets of the iron fence at the exciting hunt to discover new hiding places and unearth fresh treasures continually.

"They must have hundreds of aigs," sighed Pollie. "I wonder where did they all git so many. I spec's they's mammies did it. They's mammies ain't pore, so they cain't buy nuffin' but bread. Seems cur'ous, when white chillens has so many, they ain't a one for cullud chillens,—not a one, and I ain't never had one sence I's bawn."

It was just then that Hattie saw the little black face, with its frame of tightly wrapped tails.

"Look there!" she exclaimed to Bessie, who was beside her. "Who is she?"

"I don't know! Don't she looked funny?" And the two little girls giggled.

Pollie saw them laughing, and showed her own white teeth in a friendly grin.

"What do you want, little girl?" asked Bessie, wearing a grown-up air.

"Don't want nuffin', replied Pollie. "I's jes' a-watchin' you-all gather aigs. Who-ee, but they is pretty!" she added, at sight of the dainty basket in Bessie's hand, filled with eggs of every hue.

"How many are you going to have?" asked Hattie curiously.

"Me? None! I never gits aigs Easter, nor no yother time. Grannie cain't afford 'em, she say."

The little girls looked at each other. An Easter without eggs! What would it be like?

"S'pose we'd give her one," said Bessie.

"Yes—the purple one. 'Tisn't very pretty, I'd just as soon give it away as not." And a moment later the little black fingers closed over the treasure.

Pollie wasn't critical. It did not once occur to her that her egg was less beautiful than the others, she only knew it was hers; and her breath came so fast it almost choked her as she drew back from the fence to drop her old-fashioned courtesy, and say quaintly, in imitation of grannie:

"Thank you kindly a thousand times, little missies," adding, in an ecstacy of her own, "It's the the prettiest aig I ever, ever saw!"

All night it lay in state in a cracked glass dish on the stand beside her cot. Breakfast was poor and scanty, and grannie begged the child to eat the egg, but Pollie's eyes grew wild with horror at the suggestion. It seemed wicked to think of breaking that beautiful shell.

"It's lak vi'lets, grannie,—lak the vi'lets in the woods where we lived last spring, 'fore mammie died. Seem lak I can smell vi'lets, too. It's the onliest Easter aig I ever had, grannie. 'Deed I cain't eat it!"

The Easter sun shone clear and beautiful, and the air was filled with the jubilant music of the bells, when, impelled by their invitation, a little ragged figure slipped in through the doors of St. Andrew's and sat down on the back seat in the primary room.

Frightened at her own daring, Pollie shrank into the shadow to escape notice. But no one molested her, the sweet-faced teacher smiled at her reassuringly, so Pollie gained courage, and began to look about.

Such a beautiful place! and oh, the flowers on the platform! God's house, God's flowers, but neither the one nor the other was for little black girls. These, with the music and the pretty dresess, were for little white girls. There was nothing for Pollie except the precious egg. She drew it from her pocket and fondled it, laid it against her cheek, kissed it softly, then slipped it back again. It was happiness to know it was there. Then she began to listen to the teacher, who was telling of Easter and of all it meant to those who love the Lord. How much he must have cared for his own, to suffer for them as he did!

The teacher said: "He has given to us the blessed gift of eternal life. I think at this Easter time we shall want to do something to show how much we love Him, and will give Him all we can of the best we have."

The organ began to play presently, and the children marched up to lay their offerings in the basket, singing an Easter carol as they went. Pollie sat quietly, trying not to cry. Every child but herself had something to give Him, and she had nothing. Nothing? There was her egg! She did not hesitate. Up the aisle she went, the last of the little procession, her broken shoes making no sound on the soft carpet, her face shining with joy, and in the basket laid her treasure. She looked up into Miss Filmore's gentle face. "It's for Him," she said. "It's all I had to give."

The teacher laid her beautiful hand on Pollie's woolly head, and said: "Thank you, dear; I think it is a precious offering in his sight."—Sunday School Times.

DRUGGISTS RECOMMEND CAUSTIC BALSAM.

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The man who lives by his t like the man who lives by his must frequently sharpen them.

SOME EASTER EGGS.

lad.
the number of eggs required
t twenty minutes. When cold,
nd remove the whites carefully
ne yolks. Chop the whites and
he yolks whole. Serve on let-
aves, with a boiled dresing, and
balls of cottage cheese.

La Suisse.

ad the bottom of a dish with
unces of fresh butter. Cover
ith grated cheese, break eight
eggs upon the cheese without
ng the yolks. Season with red
and salt if necessary, pour a
cream on the surface, strew
two ounces of grated cheese on
p and set the eggs in a moder-
en for about fifteen minutes.
on top.

oiled Eggs.

e the eggs in a warm saucepan
over with boiling water. Let
stand where they will keep
but not boil for fifteen minutes.
method will cook both whites
lks.

Eggs Served in Cream.

one-half dozen eggs about 15
es, shell and cut off a little of
hite so that the egg will stand
one Boil 1 pint of cream and
n with 2 tablespoons of flour.
with salt and pepper and a lit-
tter. Pour the cream over the
garnish with parsley and grated
f a hard boiled egg.

HOMELY HINTS.

h of the danger which we antici-
from using canned vegetables
avoided by washing them thor-
. All kinds, of course, will not
of a bath, but beets, peas, spin-
r string beans I always empty
he can into a colander and hold
er the faucet until they are well
, after which I heat and season
and serve fearlessly.
make a hole in glass, press upon
lass a cake of wet clay, laying
the glass at the bottom. Pour
d lead into the hole and it will
through the glass and leave a
tly smooth, round hole.
en mending stockings having
holes, if a piece of mosquito net-
s placed over the hole and then
d through the meshes, it will
a disagreeable task much easier.
handful of salt is put on bottom
en under pans when baking gin-
ead or any cake easily burned,
l prevent its burning.
ting a pinch of salt in the coffee
ves the flavor.
remove cake readily from tins,
them on a wet towel or cloth
diately upon removing them
the oven.
freshen stale rolls dip quickly in
water and heat in the oven. If
rolls are large they should be
red with a pan part of the time
revent undue browning.
dipping your pork chops and
tenderloins in flour before frying
, and see how delicious they are.
e sour milk or cream with baking
ler and you won't need so much
tening.
mixture of kerosene and ammonia
ns porcelain bath tubs and sinks
ntly, and does not injure them, as
y or acid substances do.
da-water, which is an exception-
good cleanser for most kitchen
, should never be used on alum-
utensils, or they will speedily
their bright look.

d every member of your family
morning every morning.

METHOD OF POTTING MEATS.

Potted meats are much nicer and more delicate than the plain sliced or chopped meats for filling sandwiches, and they give a better relish to the luncheon. You may use any fragments of cooked meats for potting, such as ham, tongue or beef, any bits of poultry, game or fish, thus finding a way to use the "left-overs," while you prepare something good for the luncheon basket. And these potted meats will often be found convenient to piece out the home luncheon in case of the arrival of an unexpected guest when you are not altogether prepared. The work of potting is not difficult in itself, and the results are far beyond that of the labor; indeed, they are not at all commensurate with it.

Here is the method of potting any kind of meat, fish or game. Chop fine, and then pound to a paste the the fragments of meat, and if you are using ham see that a quarter of it is fat. Remove the skin and all bits of the gristle before pounding, so that the paste will be perfectly smooth. Season highly with made mustard, salt, pepper and cayenne, and moisten with a little melted butter, except in case of ham, when there is sufficient fat of its own, and more is unnecessary. Pack the seasoned paste in small earthen jars or in jelly tumblers, pressing it in as hard as possible, set the glasses in a steamer, closely covered, and cook for half an hour. Then press the cooked paste down again to make a solid mass, and cover with hot melted butter. This seals it from air and will keep it good and sweet for a considerable length of time.

The mothers or the older sisters who, perhaps, know how to make only a few kinds of sandwiches, and who are as weary of making them as the children are of eating them, will find that peanut sandwiches are nice as an occasional variation of food for the luncheon. Take freshly roasted peanuts, shell and blanch them, then chop as fine as possible and make a paste which will spread upon the slices of bread by moistening the chopped nuts with melted butter, and seasoning with salt and a dash of pepper.

LEAVING THE BUNCH BEHIND.

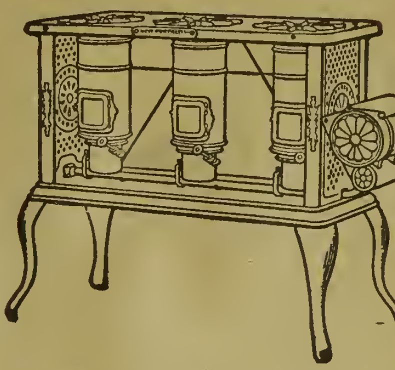
Nothing ever invented serves so admirably the triple purposes of utility, exercise and pleasure as does the bicycle.The best grade of wheels are now selling for less than one-third the prices of ten years ago, and at that the rider gets a better mount than was possible then. The Coaster Brake and Two Speed Gear features alone mark a big step forward in bicycle construction since the boom days.

Inquiry among jobbers and dealers disclosses a demand for bicycles, not only from the small boy (who has always ridden) but also from his older brother and his father also.

"Leaving The Bunch Behind" is the attractive picture adorning the gold embossed, 1908 catalogue cover of the "oldest exclusive bicycle house in America," a copy of which has just reached us. The catalogue is a work of art and is brimful of valuable and interesting matter for riders or those thinking of buying wheels. It is well worth getting and may be had by writing the Mead Cycle Co., Dept. LA 258, Chicago. They also send a wheel for 10 days free trial and will engage live agents.

NUTS.

To remove pecan meats without breaking, pour boiling water over the nuts and let stand until cold; then, when cracking, strike on the small end of the nut.



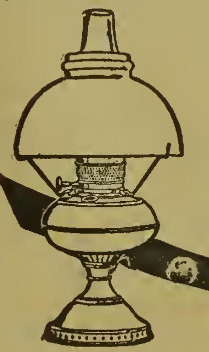
You Will Need an Oil Stove

When warm days and the kitchen fire make cooking a burden—then is the time to try a New Perfection Wick Blue Flame Oil Cook-Stove.

Marvelous how this stove does away with kitchen discomforts—how cool it keeps the room in comparison with conditions when the coal fire was burning. The quick concentrated heat of the

NEW PERFECTION
Wick Blue Flame Oil Cook-Stove

goes directly to boil the kettle or bake the bread, and none is diffused about the room to overheat it. Thus using the "New Perfection" is real kitchen comfort. Made in three sizes and fully warranted. If not with your dealer, write our nearest agency.



The Rayo Lamp Just such a lamp as everyone wants—handsome enough for the parlor; strong enough for the kitchen, camp or cottage; bright enough for every occasion. If not with your dealer, write our nearest agency.

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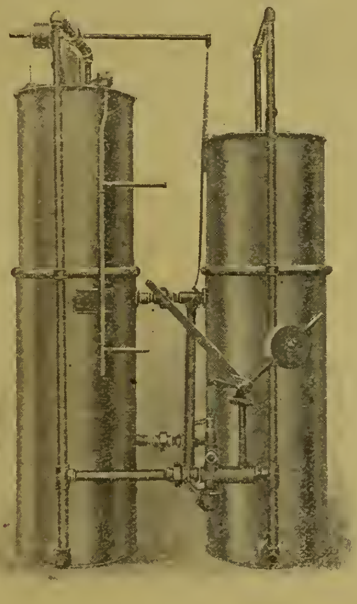
(Incorporated)



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Read what Mr. A. W. Foster, President of the California Northwestern Railway, has to say about them:
Gentlemen: Replying to yours of the 20th inst., I would state that the plant installed for me by the Western Gas and Power Company on my Hopland Stock Farm, is giving entire satisfaction, and I cannot speak too highly of it. Yours truly,
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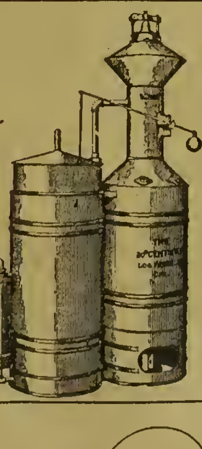

Say, Mr. Cultivator

The boss sent me down to ast you to tell all your friends that we have mooved.
Nope, Im the janitor.
Yep, the other place got too small after pepul got onto that 1908 Model. Yep, that's the one where you can see the feed valve. Buisy[Well, I guess, we are; keeps me busy rolling em out on the walk to the dray.
Simple to operate? Well, yea'ss I should say so; sold one to a Widder woman whos boy don't know how to eat with a knife and fork, but he can charge the machine all right. So long! You fix it up, tell em all about Acetylene Gas. Oh tell em to come in and see us er elce rite.

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The Produce Markets

Los Angeles Markets

LOS ANGELES, April 15, 1908.

Butter has advanced 2½ cents and in some cases 5 cents per roll, for some holders are demanding 2½ cents advance over quotations. This, notwithstanding heavy receipts. Monday's receipts alone amounted to 15 tons. Any surplus is at once placed in cold storage.

Creamery ex per roll	47½
Firsts	45
Dairy	22
Cooking	17
"Butterine"	15@20

Cheese.

California Anchor	18
Northern fresh	14
Eastern singles	20@30
Imported Swiss	29@30
Tulare flats	15@15½
Swiss	20
Oregon	18

Eggs and Poultry.

Eggs have also taken an upward step of a couple of cents. Preparation for the coming of the fleet and its great crowds are doubtless affecting prices.

Eggs local candled	20½@21
Eggs case count	18½@18¾
Northern candled	20½
Case count	18½
Eastern fresh	19½
Hens per lb	14@15
Young roosters per lb	15
Fryers	22
Broilers per lb	24@25
Roasters	18
Old roosters	8
Turkeys	15
Geese	13
Ducks	15
Squabs	1.50@1.75

Live Stock.

The hog market is showing remarkable activity and another ½ cent raise is noted this week. Eastern prices are reported to have advanced 25 per cent during the past few weeks.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds	6½
Prime steers	4½
Heifers	4
Calves per lb	5
Sheep ewes per head	4.75
Lambs per head	3.50
Wethers	5.50

Potatoes.

Potato market has remained featureless. New potatoes are coming in more liberally and this price has shaded somewhat.

Highlands	1.00@1.25
Early Rose	1.70@2.25
Salinas	1.25@1.50
Sweet potatoes per sack	3.50@3.75
Sweets Northern	3.00@3.25
Oregons	1.35
Idaho	1.25
White Rose	1.35
Watsonvilles	1.35
Nevadas	1.35
New potatoes by lb	3@4

Onions.

Bermudas per crate	2.50@3.25
Oregons	4.25@4.50
Minnesota	4.05@4.30
Garlic	18
Ohio	4.00@4.25
Colorado Red	4.25@4.50
Nevadas	4.25@4.50

Vegetables.

Artichoke per doz	40@65
do Jerusalem box	75
Asparagus per lb	7@8
Beets per doz	25
Bell peppers per lb	25
Beans limas per lb	10@12
Beans green	12@15
Beans Yellow	5@8
Brussels sprouts per lb	12@13
Cabbage sack	75
Cabbage red	1.50
Celery per doz	90
Chili peppers per doz	25
Chives per doz	1.25
Cucumbers per doz	1.25@2.50
Cauliflower	75@1.00
Carrots per doz	30
Egg plant each	30
Green onions doz bunches	20@30
Hubbard squash per lb	1@1½
Lettuce per crate	75@1.10
Mushrooms per basket	1.75
Okra	45
Peas sugar per lb	2
Parsley	30
Parsnips	35@40
Rhubarb per box	1.75@2.00
Radishes per doz	15@20
New Summer squash per lb	6
Salsify	40@50
Spinach per doz	17½
Turnips doz bunches	40
Tomatoes per box	2.00@2.15

Citrus Fruits.

Navels fy	1.60@1.75
Navels ch	1.25@1.50
Tangerines	1.60
Culls	40
Grapefruit seedless	2.50@3.00
Grapefruit seedlings	1.50@1.75
Lemons fancy	2.00@2.25
Lemons choice	1.00@1.25

Fresh Fruits.

Bellefleurs	2.00@2.25
Baldwins	1.50@1.75
Pippins 4-tier	1.50@1.75
W W Pearmains	2.00@2.30
Colorado Jonathans	3.00
Cal Ben Davis	1.75@2.00
Loquats per lb	3@6
Dewberries	12
Raspberries	25
Strawberries	5@8
Extra fancy	15

Dried Fruits.

Apricots	18@22
Evap apples fy per lb	11@12
Figs loose	7
Peaches	11½@12
Pears	16
Nectarines	16
Prunes	3½@5½

Beans Dried.

Limas per ctl	4.50
Pink No. 1	3.50@3.65
Lady Washington	3.85@3.95
Small White	3.75@3.85
Black Eyes	4.50@5.00
Garvanzas	5.50
Lentils	11½

Nuts.

Almonds per lb	17½
Pecans polished	16@17
Peanuts Virgina	8½
Peanuts California	8½
Walnuts No 1 SS	16
Walnuts No 1 H S	14@15

Honey.

Extracted Water White	7¼@7½
Comb W W	14

Hay.

Price paid to producers f. o. b. Los Angeles are as follows:

Barley No 1	14.50@15.50
Barley No. 2	9.00@11.00
Alfalfa northern per ton	12.50@13.50
Alfalfa local	15.00@16.00
Plain oat No 1	15.00@17.00
Wheat No. 1	15.00@16.00
Wheat No. 2	11.00@12.00

Grain.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl	1.85
Wheat in 100-lb. sacks	1.90
Barley	1.50
Corn Eastern sacked	1.80
White oats	1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn	1.85
Shorts	1.70
Bran	1.55
Oil cake meal	2.50
Feed meal	1.90
Rolled barley	1.55

San Francisco Markets

SAN FRANCISCO, April 14, 1908.

Butter.

Butter has remained stationary during the week. At quotations some buyers have demanded a half cent concession, but most holders are remaining firm.

California extras per lb	22
California firsts	20½
California seconds	19
Fresh Packing stock	18½
Fresh packing stock No 2	18

Cheese.

California young American fy	13½
California flats fy	11½
Firsts	11½
Eastern fy	18
Oregon fancy	14

Eggs and Poultry.

Eggs are weaker at this writing. After last week's report an increase of one cent was noted, but this is more than lost at this date.

Fresh ranch eggs	21
Eggs firsts per doz	17½
Eggs second per doz	16
Hens per doz	5.00@6.50
Hens extra	7.00@8.00
Young roosters	7.50@8.50
Old roosters	4.00@4.75
Fryers per doz	6.50@7.50
Broilers per doz	4.00@5.00
Geese per pair	2.50@3.00
Ducks young	5.00@7.00
Turkeys per lb	14@16
Pigeons	1.00@1.35

Live Stock.

Steers No 1	8½@9
Do second quality	7½@8
No. 1 cows and heifers	6½@7
Hogs 80 to 200 lbs	6@6¼
Hogs 200 to 300 lbs	5½5¾
Calves per lb	3½@5
Lambs	6@6½
Wethers No 1	5½@3¾
Ewes No 1	5@5½

Potatoes.

River Whites	40@85
Oregon Burbanks	75@1.10
Lompocs	1.00@1.10
Early Rose	1.25@1.35
River Reds	1.35@1.40
Salinas Burbanks	75@1.15
Sweets per crate	2.50@3.25
New potatoes per lb	2@2½

Vegetables.

Artichokes Jerusalem per box	75
Asparagus per lb	6
Celery per doz	35@50
Cucumbers per doz	1.00@1.50
Chili peppers per lb	15@17½
Bell peppers per lb	10@15
Beans Limas	12@15
Egg plant per lb	10@12½
Green peas per lb	2@3
Squash per box	50@1.25
Marrowfat squash per sack	60@75
Mushrooms	75@1.25
Hubbard squash per sack	60@80
Onions green per box	60@75
Rhubarb per box	75@1.25
Tomatoes local	1.25@1.75
String beans	12½
Garlic	15@20

Onions.

Oregon yellow	3.50@4.00
Eastern Red	3.00@3.50

Citrus Fruits.

Navels fy	2.00@2.40
Navels ch	1.90@2.10
Grapefruit seedless	2.50@3.00
Grapefruit seedlings	1.25@1.50
Tangerines	1.50@2.00
Lemons	1.50@2.50
Limes	6.00@6.50

Fresh Fruits.

Newtons	1.65@2.00
Spitzenberg	1.75@2.00
Pomegranates per box	1.00@2.50
Strawberries per ½ crate	1.25@1.75
Longworths per drawer	1.25
Aligator pears	1.50@3.00

Dried Fruits.

Apples (evap.)	5½@6¾
Apricots per lb	13@17½
Figs white	2¼@3½
Nectarines	10@13
Plums pitted	12@14½
Peaches	7¾@9¼
Pears	7½@11
Prunes 4-size bag basis	2¾@3½

Beans Dried.

Limas	4.60@4.70
Pink	3.00@3.10
Small white	3.40@3.55
Large white	3.45@3.60
Lady Washington	3.45@3.50
Black Eyes	3.25@3.50
Red Kidneys	3.20@3.40
Garvanzas	4.00@4.25
Bayo	3.00@3.15
Horse beans	2.25@2.40

Hops.

Hops per lb	3½@6¾
Hops old fancy	1@2½

Honey.

Clear white comb	16@17
Amber	12@15
Extracted	7½@8
Beeswax No. 1 per lb	26@27
Beeswax No. 2 per lb	23@25

Hay.

Choice wheat hay	16.50@18.00
Good wheat hay	15.00@16.00
Other grades same	11.00@15.00
Wheat and oat	11.00@16.00
Tame oat	10.50@15.00
Wild oat	9.00@13.00
Stock hay	7.50@@9.50
Alfalfa	9.00@13.50
Straw per bale	50@.90

Grain.

Wheat No 1	1.57½@1.65
Barley No 1	1.35@1.40
Corn large yellow	1.60@1.70
Oats white	1.50@1.57½
Oats red	1.52@1.60

Feed Stuff.

Bran per ton	30.00@32.00
Feed cornmeal per ton	33.00@35.00
Cracked corn per ton	34.00@36.00
Rolled barley per ton	29.00@31.00
Oil cake meal per ton	37.50@39.00
Cocoanut cakes per ton	27.00@28.00
Middlings	33.00@36.00

FOOL PROOF.

An engine on a new principle has just been introduced to coast trade and is winning its way. It is the Morrow two-cycle gas engine. It is without valve or coil spring and has no packing. It has constant compression and constant explosion to each revolution and is almost perfect in action. It's makers claim "most perfect engine for pumping extant," and also guarantee it to be "fool proof." Write J. G. Bates, 860 N. Main St., Los Angeles for information.

Citrus Marke

LOS ANGELES, April 15,

The situation as to oranges satisfactory. The demand is k prices firmer and indications g still stronger tone. Some houses have already ended shi of navels so that there has shrinkage in total output. Se and Mikes are now going forwa idly and proving profit winners

Lemons are improving and grades are commanding fair There is opportunity for vast in ment in the line yet, however. grades scarcely pay cost of s

Shipments.

Total shipments of citrus fr date 17,169 cars, of which 196 lemons. To same date last yea of which 1406 were lemons.

NEW YORK, April 13.—Twent cads navels, one blood, one Ca Bright and one lemon sold. Ma very strong and active, with from 15 to 25 cents higher. Si and smaller are unchanged; als ons. Weather clear and fa Afternoon sale, 13 cars navel seedlings, one lemon. Market and strong.

NAVELS—
Columbia
Orchard, National Orange Co.
Standard, National Orange Co
Whittier, W. F. Whittier
Carnation, Moulton & Greene.
Curtiss, L. R. Curtiss, Corona
Old Mission, C. C. Chapman
Golden Eagle, C. C. Chauman
Pointer, A. C. G. Fruit Ex.
Golden Flower, Red. G. O. Ass
Golden Gate, Red. G. O. Ass'n.
Alta Cresta, Arlington Hts. F.
Robusta, Arlington Hts. F. Co
Golden Rule, Riverside Fruit Ex
Homer, Riverside Fruit Ex.
Family, Q. C. Fruit Ass'n.
Lochinvar, R. H. Fruit Ex.
Belt, R. H. Fruit Ex.
Red C., Covina Frt. Ex.
Pet, S. A. Fruit Ex.
Golden Rule, Riv. Frt. Ex.
Cosmos, S. B. Fruit Ex.
Violet, D. M. Fruit Ex.
Queen Bee, Q. C. Fruit Ex.
Royal, Q. C. Fruit Ex.
Butterfly, Q. C. Fruit Ex.
Teal, Covina Fruit Ex
Floral, S. B. Fruit Ex.
Truth, Riverside Fruit Ex.
Blue Globe, Riverside Fruit Ex.

CINCINNATI, April 13.—W warm; market steady; none cars seven on track; Florida Brights to $2.30; Russets, $1.75 to $2.35.

NAVELS—
Parrot, S. A. F. Ex., Pomona.
Silence, Flogler F. Co.
Greyhound, S. A. F. Ex., San D
Crybaby, Flagler F. Co.
LEMONS—
Greyhound, S. A. F. Ex, San D
White Cross, P. & McKevitt.
Bride Veil, P & McKevitt

ST. LOUIS, April 13.—Weather f able; market steady; ten cars s teen on track.

NAVELS—
Belt, R. H. F. Ex., Highland.
Newsboy, R. H. F. Ex., Redlan
Ben Hur, R. H. F. Ex., Redlan
Redlands Oranges, T. I., R. H. F Ex.
Volunteer, S. A. F. Ex., N. Pomo
Golden, Riv. F. Ex., Riverside
Native, O. R. Sutherland
Select, S. A. F. Ex., Pomona.
Belt, R. H. F. Ex., Pomona
Native, O. R. Sutherland

CLEVELAND, April 13.—Weat vorable; market steady; elev sold. Seven on track.

NAVELS.
Sweetheart, Highgrove F. Ex.
Yankee Doodle, Highgrove F. Ex H.
Coral, S. A. F. Ex., Highland.
Orchard Run, Riverside F. E. R
Iroquois, Redlands, O. G. Ass'n.
Eagle, Highgrove F. E., H.
Cosmas, B. F. Ex., Highland.
Airship, V. T. F. Ex., Fillmore
Rancho, S. B. F. Ex., Colton
Niagara, Stewart F. Co.
Grove

PHILADELPHIA, April 13. cars navels, four seedlings, on six mixed and one lemon sold; warmer; market remains un 2000 boxes Florida oranges sold; unchanged; 10,000 boxes Sicily express S. S. Geraldina, sel afternoon.

NAVELS—
Butterfly, Covina, F. Ex., Co
Sweetheart, Highgrove, F. E. H
Yankee Doodle, Highgrove F. Ex H.
Pointer, A.C.-G. Fr. Ex., Glendora
Cosmos, S. B. Fr. Ex., Yerkes S

PITTSBURGH, April 13. Twe cars sold, ten on track; market is fr 10 to 15 cents higher; weather favo ble.

NAVELS—
Gavilan, Riverside Fr. Ex., Riverside
Blue Jay, O. K. Fruit Ex., O. K.
Airship, V. T. F. Ex., Fillmore.
Maine, C. M. Sparr Fruit Co.
Golden Flower, ex. fancy, Redlands
Pride of Sol., Riv. F. Ex., Riverside

UMPING PLANTS.

nued from Page 457.

f test	41 hours
measured by weir	1.21 cu. ft. per second
ited per hour	21,550 sq. ft.
rrigation	2.4 inches
	22.3 feet
sepower, based on the lift	3.06 H. P.
sepower of engine, rated	12 H. P.
s per minute of engine	332
ulleys	3 to 1
is per minute of pump, ted	996
s per minute	134
ion of distillate	5.62 gallons
el, lubricating oil, and at- nce per acre-foot of water	$3.82
acre-foot of water lifted oot	$0.17
well per foot of lowering ter level	135 gal. per min.
foot of lowering and per of percolation area	1.85 gal. per min.

eworthy feature of these re-
the excellent waterbearing
of the gravel. The features
to be critized are the lack
rtion between the different
s of the plant, the large en-
all overspeeded pump and in-
t pipe capacity. The cost of
er acre-foot raised one foot is
gh. With suitable pump and
ions the amount of water
with the same engine and the
onsumption of fuel would have
loubled, while the needed
s would have cost less than ten
t of the investment in the

* * *

other plant recently tested, the
ife was 13 feet, while the pres-
nges indicated a lift of 31 feet,
of 18 feet in the piping alone,
ore than doubling the work of
up. As in the previous case the
t single loss was at the foot
and strainer. The belt was
to be slipping very badly and
her less than one useful horse-
was being developed. The 5x7
gine was running on 78 pounds
m pressure and making 261
ions per minute. Its indicated
ower would probably have ex-
ten.

* * *

nother case the pumping plant
much in excess of the devel-
water supply that the speed of
mp was held back to 65 per
f its most economical rate and
scharge was but 36 per cent of
per amount. Moreover, the en-
vas so large that it was being
ed on only 28 pounds of steam.

* * *

another irrigating plant the
to water was observed to be 16
Levels run between the wells in
cinity demonstrated that the
table sloped rapidly downward
the irrigated field toward
umping plant and had the well
situated on the opposite corner
e field the depth to water would
been but 8½ feet. There was
nce also of a better water supply
e latter place and the new loca-
was better situated with refer-
to ditching for the field. Upon
dvice the owner sank a new well
abandoned his former one. His
r supply is now very greatly in-
ed.

ll another ranch has a plant re-
ng about 18 brake horsepower and
H. P. gasoline engine would have
the work well. But "to guard
st breakdowns" a 25-H. P. engine
ordered. The engine is of a very
ble make and the smaller size
d not break down, its cost would
ss, and its efficiency greater than
of the larger size.

* * *

ese examples indicate that too
forethought is given to the de-
pment of pumped water supplies.

At a time when there is much discussion as to the profitableness of pumping for irrigation we do well to note that many plants are poorly built and fail to do justice to the affirmative side of the question.

IRRIGATION IN TULARE COUNTY.

Continued from Page 448.

The matter of inches used cuts no figure. You use all you can handle or your ditch will carry, until you irrigate the number of acres listed, and then you close your headgate, and that is all there is to it, where an acreage toll is charged, until you are called on to pay from fifty cents to a dollar an acre, not for the amount of water used, but for the number of acres irrigated. Could a more wasteful method be devised?

200,000 Acres.

However, it must not be assumed that because attention has been called to our lavish supply and wasteful methods, nothing has been accomplished towards the betterment of conditions, for, on the contrary, more economical methods are being introduced, and thoughtful men are turning their attention to the conservation of our water and the betterment and extension of our canal system. We have now more than 700 miles of irrigating ditches, and 200,000 acres are irrigated annually.

We Are It.

One feature of our system that is of special importance and appeals strongly to the man familiar with irrigation, is the fact that the water in all instances belongs to the land. Here are no corporations that control the supply and fix arbitrary tolls for the water consumer. The gravity canals are operated either by private corporations co-operative in their nature, or by the district irrigation system. It is also worthy of note that the forestry of our water shed is largely protected by government reservations.

Pumping.

No article on irrigation in Tulare county would be complete that failed to note the new system known as "pump irrigation," which has made wonderful development of recent years. Underlying all of our county there is an immense underground reservoir of water which can be reached at a depth varying from 50 to 150 feet. The establishing of electric power plants and the improvement of the gasoline engine has made it practicable and profitable to bore wells and install pumping plants for irrigation purposes. Through this method more than 15,000 acres of land which cannot be reached by the gravity canals has been brought into a high state of cultivation. The returns from this 15,000 acres last year amounted to more than $1,500,000 and this is only about one-third of its producing capacity, as it is largely planted to orchards, vineyards and orange groves, many of which are not yet in bearing.

Will Improve.

With these facts in view we of Tulare county think that we are particularly blessed in the matter of water supply, and realize that it is only a question of a short time when our irrigation system will be greatly improved and brought up to the standard of highest efficiency.

Imperial proposes to have a free cantaloupe feed on July 4th and everybody who comes is to be given their fill of cantaloupes.

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

How do you know your roofing will last, if you don't know what it's made of?

Genasco Ready Roofing

is made of Trinidad Lake Asphalt. You know it, and we want you to know it. And you know that natural asphalt is the only thing which gives roofing the life that resists and lasts.

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Ask any alert dealer for Genasco Ready Roofing. Write for Book 35 and samples.

THE BARBER ASPHALT PAVING COMPANY
Largest producers of asphalt, and largest manufacturers of ready roofing in the world.
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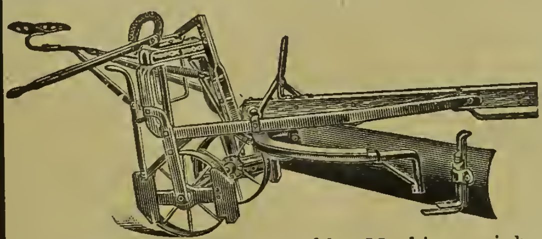

Those big costly road machines have stopped thousands from making the roads better in their sections. But now they can get a light, easy-to-pull grader and do the work quickly, cheaply, easily. One man and a team can do almost every job with no fuss or trouble. Machine weighs only 600 pounds. It is the

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Made of steel and Malleable iron; strong, stiff and adjustable to every need in road building, land leveling, ditch digging, railroad grading, etc. Our handsome new booklet is free and tells all about the machine with large illustrations. Send now for it and learn how to make good roads cheap. Address

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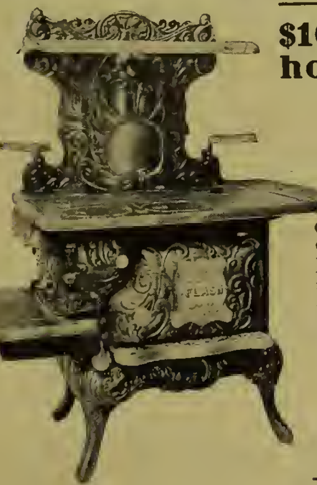

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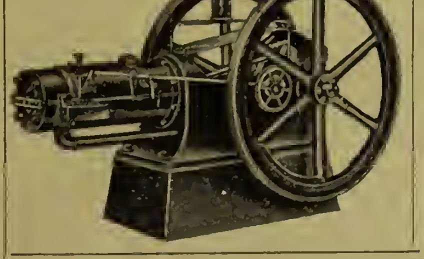

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Write for Bulletin No. 11.

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How would you like to read about the mechanical points of gas engines? If interested send for our booklet "The Gas Engine and its Mechanical Features."

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LONGEST LIFE **FEWEST PARTS**
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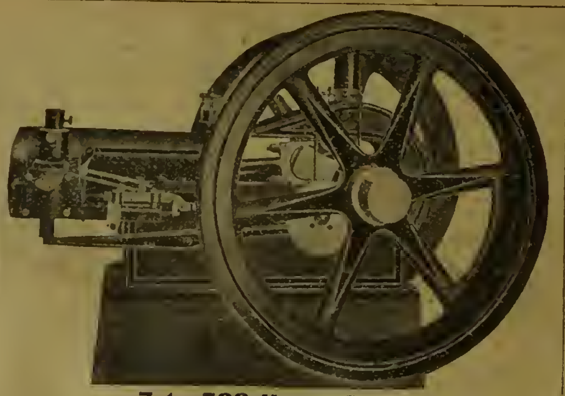

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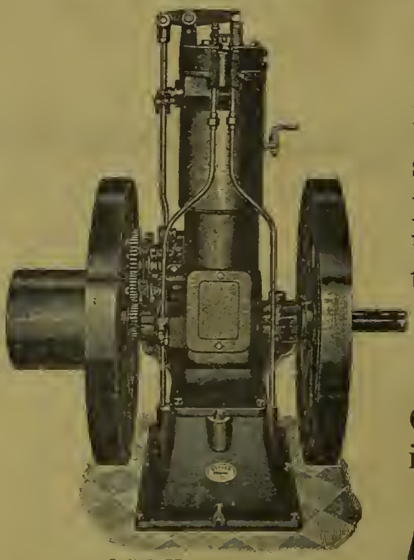

3-5-9 H. P. Vertical

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Our Engine is Economical in Fuel Consumption

Our Price is Reasonable. We Want Agents in County Towns—hustlers.

5 to 50 H. P. Horizontal

Livingston & Lee

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Los Angeles, Californi

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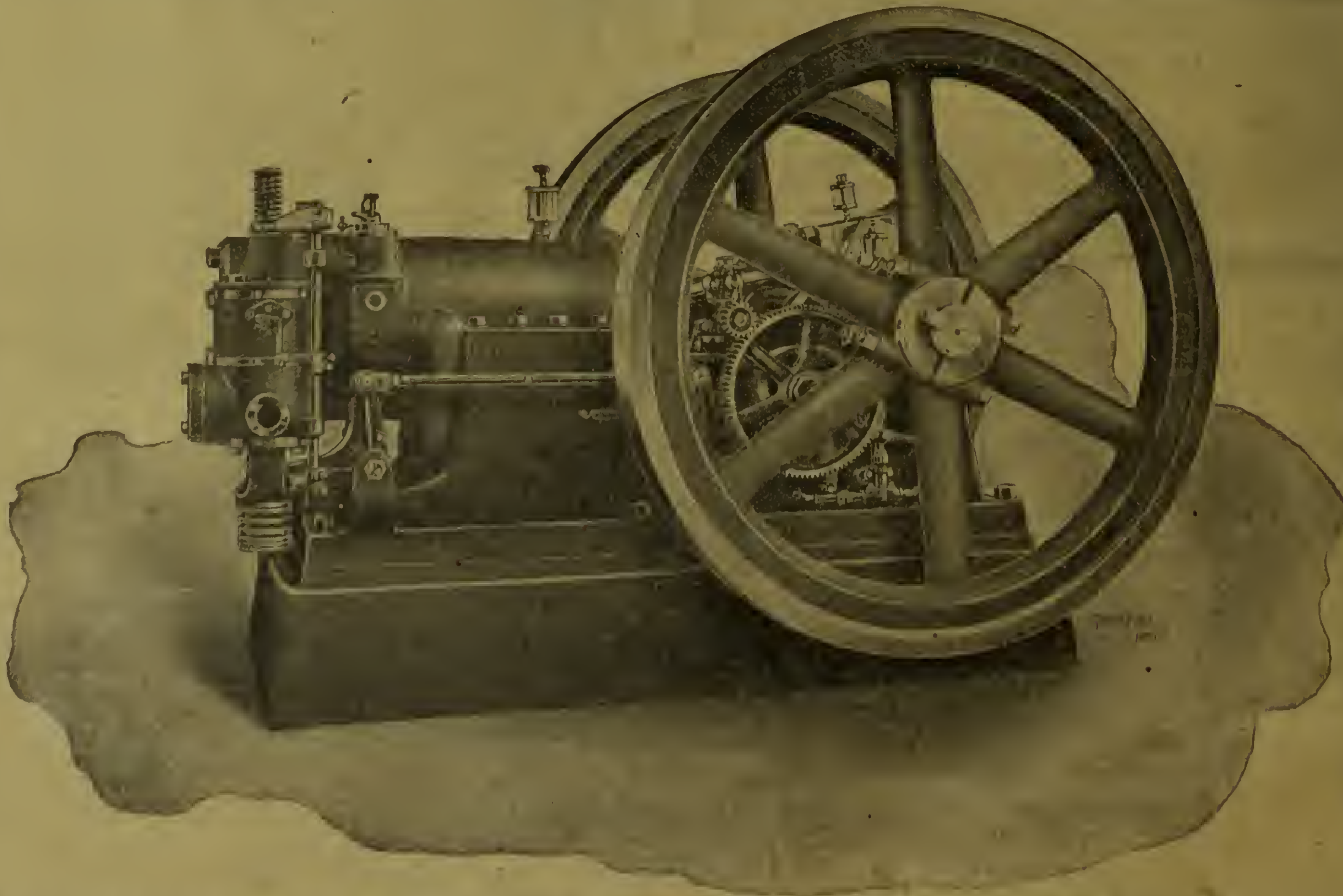
Have made good in the West. Ask the users. No hard times for us. Why? Because the discriminatin buyers are getting acquainted with the Alamo. And when they get acquainted they buy. It will pa



You

to get acquainted.

See others, but don't bu until you' seen the Alam

Norton Engine and Power Co.

201-203 No. Los Angeles Street
Los Angeles, Ca

305
CA Stack

California Cultivator
Published Weekly
One Dollar a Year
s Angeles April 23, 1908 San Francisco

Thrifty Orange Orchard at Gridley

NE of the first oranges planted north of Tehachepi was at Bidwell's Bar, on the Feather River, in Butte county, in 1856. That tree still stands and has been photographed and tten about often. More recently many other orange trees have n planted in Butte county and the output has brought to that tion many good dollars. These shipments have been largely m Oroville, Palermo and Thermalito. But as proof of the abil- of Gridley and Biggs to also produce oranges, the Gridley rald kindly sends for Cultivator readers the above engraving.

Mr. Burleson, the editor, writes the Cultivator: "These trees very vigorous and healthy and the fruit is free from defects. e Campbell grove, a view of which is here given, is of about 3½ res, and the trees are twenty years old. The owner secures od returns from his trees."

The Herald says: "Visitors see the orange groves of this place and express wonder that the whole country is not set out to orange trees. When told that the lands on which these trees can be grown in perfection and on which the oranges ripen into delicious golden globes with flavor that sends the epicure into ecstacies of delight can be bought for $100 to $150 per acre, and that water in abundance for irrigation can be had for $1.00 per acre per year, the thing looks so unbelievably good that many of them hesitate to believe it and suspect that some hocus pocus is being played on them.

"No smut is ever found on the oranges grown here, and consequently the expensive and rather disagreeable job of washing the fruit prior to shipment is never necessary with our oranges.

"At the present time there is a great deal of inquiry for orange lands in this neighborhood and a considerable interest is being taken in the planting of trees by local land owners, nurserymen having sold a good many trees during the past few weeks."

Coulson's
Growing Chick Food

After hatching your chickens and raising them successfully up to 5 or 6 weeks old, they are worth something to you, and every one that dies now is a distinct loss in the cost of feed you have used, as well as the cost of hatching and subsequent care of them.

Therefore, in deciding what feed to use now that they are getting too large for the baby chick food, you must exercise the same care as before, to give them the best.

The Best Feed with the Least Labor

Is what you want and that is where

Coulson's Growing Chick Food

comes in.

Coulson's Growing Chick Food is rich in protein, owing to the meat and bone it contains. The grains and seeds in this food are not all ground up, a portion being granulated, so as to give their digestive organs sufficient work to insure health. The food contains a large variety of ingredients, which furnish the growing chick all it requires for quick, healthy development.

COULSON'S GROWING CHICK FOOD is especially adapted for feeding dry in hoppers, as well as dampening as a mash.

THE HOPPER STYLE OF FEEDING HAS NUMEROUS ADVANTAGES:

COULSON'S GROWING CHICK FOOD can be placed in a hopper in sufficient quantity to last for several days. If this hopper is properly constructed there will be no waste, and the consequent saving of labor in feeding is large. The chickens thrive amazingly well on it, and are kept in the most healthy condition, as with the dry feed always with them, they have no desire to gorge, with consequent digestion troubles.

Many have hesitated about trying this method of feeding by reason of the cost of the hoppers required. A good hopper for dry feeding can be made by any one at a very slight expense. We will be pleased to furnish a simple method of making these hoppers, free of charge to you.

Try the Dry Feed Method

with

Coulson's Growing Chick Food

and we are sure you will never use any other.

COULSON'S GROWING CHICK FOOD can be used for chicks from 4 to 6 weeks old up to 3 months old, when COULSON'S EGG FOOD or IMPROVED MASH EGG FOOD should be fed them.

If your dealer does not handle COULSON'S GROWING CHICK FOOD, write to us and we will tell you where you can get it.

Coulson Poultry and Stock Food Co.

PETALUMA, CALIFORNIA.

Germain Seed Co., Los Angeles

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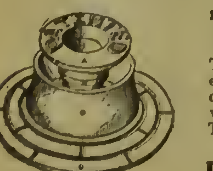

The Star only Oil-Gas Burner is a simple, safe and economical device for taking the place of wood and coal in all cook stoves, ranges, heaters or furnaces, without more soot or smoke than from a wood fire. The only Oil-Gas Burner that will not clog.

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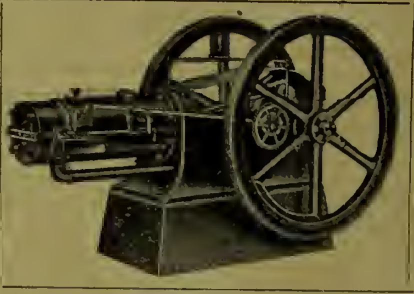

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Which is not only durabl
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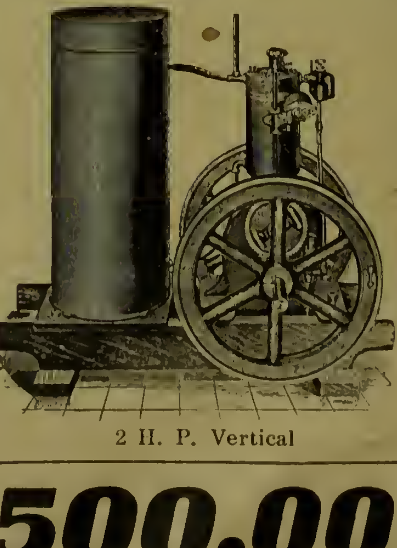

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The simplest and the best
have had long experience ins
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ness. See us before you bu
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alifornia Cultivator

XXX—No. 17 Los Angeles, California, Thursday, April 23, 1908 Subscription $1 a Year

Culture of the California Goober

E. W. Brewer of Anaheim Writes from Experience of the Growing of Peanuts, Which have Proved Very Profitable in Orange County

HE peanut has been raised more or less in Orange county for the past twenty-five years. During the past eight or ten years it has d more prominence, and there is a fully ped cleaning and grading plant at Tustin, d and operated by Mr. C. E. Utt, who has properly styled the "Peanut King" of Orange ty.

e Spanish peanut, a variety grown exten- y for the confectionery trade, and also used alted peanuts, is raised quite extensively by Utt, who has the required machinery for shing and shelling. They are such little es that it is impossible to harvest the crop by

ie market for peanuts is not nearly supplied he local product, but tons of nuts are shipped ss the continent to Los Angeles and San Fran- o, while Japan is also pretty busy at the same and lands peanuts from the Orient in San ncisco. The Japanese peanut is an inferior cle, but, of course, some venders will buy any trash that looks like a peanut to sell in the k to the peanut loving people.

he peanut requires a light soil, so that the und will not readily bake in the summer sun- ne. Peanuts have been raised with varying cess from as far north as Canada to the ex- me Southern portion of the United States, but colder northern and eastern States have too rt a summer season to raise many for com- rce. The peanut makes a pretty vine and some raise them on suitable ground in front yards home use. A large portion of Orange county is table for peanut raising, and as they require little water, it makes a profitable crop to plant tween the rows of a young orchard not yet in aring.

Three hundred acres of this nutritious nut were anted in Orange county last season, and from the neral outlook at the present time, there will be tween four and five hundred acres planted the ason at hand.

ulture.

Prepare the land to be planted the same as you ould for corn and have a well pulverized field at is light and friable to the depth of 6 to 10 ches. The time for planting should be after e frosts are over so that the young plants will ot be injured.

In this section we can plant from the first week April till the first of June and get a mature rop of nuts at harvest time. The general time f most growers for planting is from the second eek in April to the second week in May. When ou have your soil in proper condition for planting he distance apart of the rows and the distance etween the kernels in the row must be determined by the quality of the soil and the variety of the peanut that is desired to be raised. The majority of growers plant the rows three feet apart for the variety known as "Virginia Running Variety," and the kernels are dropped in the row from 12 to 20 inches apart. Some drop two at a time while many try to drop only one at a time. The Placentia Wonder vine averages four feet across, so that the rows should be from 3½ to 4 feet apart with that variety to give any show for the harvesting to the vines. A standard 3-foot wide "sled cutter" gets choked too often for economy in harvesting if one row of vines overlie the adjacent row. The Spanish peanut is planted as close together as will barely allow a horse to work the field and the kernels are drilled in, as the plants do not spread but very little. The seed should be covered about 2 to 3 inches deep.

How to Plant.

Some use a sled with shoe attachment with pipe leading upward about 18 inches, with funnel shape top, to give freedom for dropping kernels. Others use a corn planter, removing the plates, and boys dropping the seed as the planter moves along. In small patches, a light furrow can be turned with a one-horse plow and the seed dropped by hand and lightly covered either with a plow or a hoe.

There is no secret process to raise good peanuts; it only requires the proper care and attention at the right time and the good sunshine, and cultivation to keep all the weed growths down.

Good Seed.

Do not expect to raise good crops or choice nuts from cull seeds. Some farmers plant "seed potatoes," so-called, that are not fit for hog feed and wonder why they don't get as good potatoes as some one near by who only use the best selected seed. The same with peanuts—use only the choicest seed obtainable. It doesn't pay to put in a season's work on a poor lot of seed for any kind of a crop.

When the seed has been planted from three to five days run over the planted area with a two-horse harrow lengthwise of the rows, the harrow having the teeth slanted back forty-five degrees. This will kill all weeds starting since plowing and gives the peanut plants a chance ahead of the weed crop. It is a saving of going over the whole piece with a one-horse cultivator after the plants first come up.

Clean Cultivation.

After the plants are up to a size that is safe to take a one-horse tool, put the weed sweeps on the one-horse cultivator and clean out between the rows of peanut vines, going twice in each row so that you can run close to the vines on both sides.

A good job at this time will save a great deal of hoeing. A job that I have never found any one hunting for very hard. The hoeing job generally hunts for the man.

Don't Cover.

Do not pretend to cover the blossoms, as that theory is a thing of the past. A better crop is obtained on flat surface growth without covering blossoms than by hilling the vines and covering.

After the weed cutting with the horse tool is done then clean out each row with the hoe; keep your land mellow throughout the season and free from weeds.

Irrigate.

When the plants begin to blossom and get about as large as your hand run one good furrow down the center between rows and give a good irrigation. This is about the middle of June or a little later, according to the time of planting. As soon as the land will permit give a careful cultivation, going twice in each row to get as close to the plants as possible without injury. They are pretty tough by this time. Hoe over the rows again after irrigating and cultivating. In some sections, and some seasons, there is a fair crop raised without irrigation, and some growers "scoot" through the rows once with a cultivator, but I find that good care yields good crops.

As the vines begin to spread do not disturb them, as the little shoot or peduncle under each blossom enters the ground and the nuts form on the end from one to two inches below the surface. Set your cultivator narrower and keep the ground in good condition, and do not let the weeds get the start if you expect to have a good crop of nuts.

Harvesting.

We harvest the crops in this locality during October and early in November, before the rainy season sets in. Some years I have seen crops harvested as late as the middle of December, but that is taking too many chances. The rain damages the color of the shells by the mold and mildew of the vine while curing in the field.

We use a sled cutter in this neighborhood. Some use a plow with the mold board removed and a cutter welded on.

The knife of a sled cutter can be attached to any two-wheeled style of cultivator where the wheels are the right distance apart for the rows.

When cutting the vines set the blade below the nuts, so as to strike the tap root. The curved fingers slightly raise the vines, while two men following lift each vine, separating with a fork, and place them in winrows, about five rows of peanut vines to each winrow; placing the nuts down always on account of discoloring the shells by heat and sunburn, which hurts the market value, although a dark shell is no detriment. It depends on the plump kernel for seed quality. The vines should remain in winrows from 24 to 72 hours, according to the drying quality of the weather. Then shock the vines about the size of average hay cocks, lifting each vine singly with the fork and carefully handling, so the nuts do not break off and get scattered over the field. Cure the nuts from 6 to 12 days in the shock before picking, so that they will not discolor and mould in the sack after picking.

Picking.

The prevailing price for picking in this locality is 30 to 40 cents per sack holding about 40 pounds, field filled. We use five gallon square coal oil cans

Continued on Page 491.

IRRIGATION
PUMPS ENGINES and PIPING

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for
Prices

The Cost
Of pumping water for irrigation can be greatly reduced by selecting the Right power and pump.
We have acquired valuable information in installing thousands of
Pumping Plants
and believe we know how. Why not ask our advice before purchasing? It will cost nothing and will save you money.
The Cost of a Pumping Plant is not so important as the cost of pumping the water after you have the plant.
We have no "hobby." We sell all kinds of Pumps and Powers. It is a pleasure to sell you an economical plant. Come in and talk it over.
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LAMBERT GASOLINE ENGINES
AERMOTERS STEAM ENGINES
STEAM BOILERS DEEP WELL PUMPS
PUMPS FOR EVERY SERVICE
PIPE CASING FITTINGS
PULLEYS BELT SHAFTING
ENGINEERS' SUPPLIES
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Successors to
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For Sale
A few thousand Eureka Lemons and Seedless Grape Fruit Trees.
Highland grown.
No scale.
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One-year-old sweet orange and sour orange seedlings. Get your order in early. Now is a good time to plant.
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Five Thousand Orange Trees
The finest lot of 2 year old Placentia Perfection Walnut Trees ever offered. Berry Bushes, all kinds.
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SOUTH BEND ORCHARD CULTIVATOR
Acknowledged the best, 5 feet wide. Spring teeth if wanted. Horizontal lift. No neck weight.
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Steel and malleable iron. Dust proof wheels.
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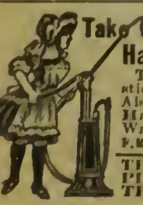

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The only Glass Valve Pump—never sticks—never fails—always ready. Also HAY TOOLS, Barn Door Hangers, Hay Rack Clamps. Write today for Circulars and Prices.
F. E. Myers & Bro., 3 Orange St., Ashland, O.
THE PUMP THAT PUMPS

With the Citrus Growers

GUM DISEASE.

The following was written for the Whittier News by J. A. Marchus, of that city. He has treated over 1000 acres in the past year with gratifying results.

The question of gum disease and its cure, in the orange and lemon sections of California is one of absorbing interest to the citrus growers. It seems to be greatly on the increase in most sections, and while it has in the past confined its destruction to old orchards, within the last two years it has been steadily increasing in the young trees. The general public is not aware that in reality there are two forms of gum—one called scaly bark, and the other, "the common lemon gum." While these two forms of gum are commonly believed to belong to one class, still it will be observed that while the effect of the two is very much the same, still the former affects the trunk and branches, the later confines its operations to the roots and bud union.

Gummosa, or scaly bark, is found only on orange trees, and commences usually at the forks and extends up and all over the branches. This has every resemblance to a genuine disease. Commencing on a healthy tree and spreading rapidly all over it, gradually forms a rotten mass from top to bottom. It seems to work as rapidly on one orchard as another, when once started, and contrary ot the lemon gum, is found on the lightest and best drained soil.

Cultivation, irrigation or fertilization does not seem to check it in the least; the strongest and weakest trees are affected alike. This disease has spread in the last two years to such an alarming extent that in some localities entire orchards are threatened with destruction.

Not on Young Trees.

It is more likely to appear after the seventh or eighth year, but sometimes, if near a diseased orcahrd, it will appear on young trees. First noticed, it appears like a ringworm, usually oblong in shape an denlarging until it encircles the entire tree.

This disease yields readily in its first stages to an application or two of English Potash 99 per cent. fine in a proportion of 1 of acid to 6 of water. Scrape diseased part perfectly clean with dull instrument and apply acid with spray pump. In older and chronic cases more powerful acids are required to burn it out.

The common lemon gum differs in that it affects the roots and bud unions, seldom going more than a foot or two above the ground. Investigation in localities most affected point to the fact that this is simply a condition of that particular orchard or tree, showing mainly that it is rarely ever found on light, well-drained soil, but mostly on the heavy lower land, and then usually at the lower side or end, where the water is banked back, the trees flooded, and bud unions a foot or two below the surface. Too much water near the tree is sure to bring on the gum. The bark does not scale off like the gummosa, but rather dries up and adheres to the tree.

Prevention Is Best.

In speaking of this condition the old adage of an ounce of prevention being worth a pound of cure is certainly true. In buying trees look carefully in the top and roots of the tree for gum spots. Two months of hot weather, and no water or cultivation will make the ground hard around these small trees and gradually stop the circulation of sap. In transplanting, this tree becomes still weaker, and is in no condition to resist the sourness that has started under the bark.

Bud High.

Select trees budded high and be sure in setting out to expose the bud unions as much as possible. Keep the ground at all times loose, well worked and away from the trunk, allowing the sun to dry up the wet and sour condition usually found, and after the tree is well rooted and started, do not allow irrigation water nearer than three or four feet.

Treatment.

In speaking of a cure for this gum, several remedies have been tried with varying results. The fact that this conditions works between the bark and trunk makes it impossible to treat successfully without first removing the bark in every direction as far as there is any indication of gum. Now that you have removed all the diseased parts, it becomes necessary to supply an artificial bark until the portions removed can heal. The best and most satisfactory results are obtained by sealing over with a wax paste made as follows: 1 quart boiled linseed oil; 1 pound beeswax, 3 pounds resin; melt very slowly and apply warm. Great care must be taken when removing bark not to cut or remove a thin, fine covering next the trunk, sometimes caller inner bark, and also to make a neat cut, leaving no ragged edges. This work can be profitably done at any time of the season. Do not make the mistake of leaving a tree in spring and summer until it is done. When first noticed, cut out every indication or it will encircle the entire trunk.

ORANGES IN PORTO RICO.

There is in Riverside at this time, a man who is one of the most prominent factors in a business which has at times engaged the very earnest attention of the people of this community. The man's name is Edwin K. Martin of New York and his business is the cultivation of oranges upon one of the tropical islands off the east coast of the United States.

Mr. Martin is upon a pleasure trip to California with his wife, but took occasion yesterday to gather up all of the available information concerning the cultivation of oranges as carried on in this valley. Yesterday afternoon he was taken in charge by E. A. Chase, and therefore drifted into hands where he could receive the best and the safest information.

While Mr. Martin is quite frank in his admissions that it will be a very long time before Porto Rico can be looked upon as a competitor of California in the production of oranges, he calls attention to some very material advantages possessed by his tropical island. For example, common labor in Porto Rico is 50 cents a day. Mr. Martin's orange groves are located upon an arm of San Juan Bay, and the transportation cost to lay his fruit down in New York is 25 cents a box, the time in transporting about four days.

Mr. Martin says that the methods of handling fruit in Porto Rico are exceedingly crude and primitive as compared with those in effect in California. He speaks of the methods here as the very perfection of system, and he does not look forward with

Farmers and Stock R

Prepare for the uncertainties of this life.
Get your savings invested so that they will yield a steady income to care for you in old age or to care for your wife and children in case of death. Do not leave your affairs in such shape that the lawyers will get the cash and your wife the leavings.
Carefully selected First Mortgages and High-grade Bonds of old companies, are the best investments for the man looking for an assured income.
Write for particulars.
Our customers interests are of first importance to us.
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Building. Telephones A6897 Main
Los Angeles, Cal.

Oranges and Lemons
When the right varieties are properly grown and planted, are money makers. Our new booklet on Citrus Culture tells all about the standard sorts, planting, cultivation, irrigation and packing the crop. Over 100 illustrations and something like 50,000 words of text. The price is merely nominal, namely, 25 cents. May we have your name for a copy?
San Dimas Citrus Nurseries
R. M. Teague, Prop.
San Dimas, Cal.

Citrus Tree
Ready for delivery a first-class stock of Valencias, Washington Navels, Eureka Lemons and Marsh Seedless Grapefruit.
Pollard Bro
ALHAMBRA, CAL.

confidence when it will be
) organize the growers of
) into such an efficient or-
Those who have taken up
)wing there, he says, are of
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of people who went to the
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ıre raised being subject to
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There are some difficulties
ed from pests, like certain
varieties of scale and the green beetle, but the greatest difficulty arises from the dense growth of tropical weeds which infest the orchard.

A conversation with Mr. Martin does not indicate that the cultivation of oranges in Porto Rico is being engaged in to the extent which has been popularly supposed here. He says that there are probably several hundred growing oranges, but their holdings are for the most part small. Land values are about $100 an acre, an increase of tenfold in the past seven years. There is one point, however, concerning the citrus products of Porto Rico in regard to which Mr. Martin does not qualify. Both he and his wife insist that the Porto Rico grapefruit is the best in the world, and that the California porduct is not to be mentioned the same day therewith.—Riverside Enterprise.

.e Fruit Growers Convention

ırty-fourth State Fruit Grow-
vention will be opened in
)pera House, Riverside next
morning at 9:30. Commis-
effrey will preside and John
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n of these papers as they are
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to make it at once the most
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l be necessary to pay the local
agent the full transportation
to Riverside, and demand a
for the same, made out on a
urnished by the railroad com-
This receipt, when counter-
by the secretary of the con-
will entitle the holder to
e a return ticket at one-third
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day morning will be the usual
g address of welcome by the
Address by Governor Gillett,
sioner Jeffrey. Tuesday after-
April 28, the program proper
with:
ut Culture and Top Grafting
rease Production, J. B. Neff;
sion conducted by Prof. H.
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Pr ent and Future Status of
rape Industry, O. E. Bremner;
ion, conducted by Geo. C.
g.
sites and the State Insectary,
Pease; Discussion, conducted
f. A. J. Cook..
sday.
9:30 o'clock.
er Handling of Citrus Fruits,
Recd; Discussion, conducted by
old Powell.
ing House Equipment, C. E.
y; Discussion, conducted by P.
ıer.
Citrus Protective League, El-
bert Lyon; Discussion, conducted by Charles C. Chapman.

1:30 o'clock.

The California Lemon, C. C. Teague; Discussion, conducted by R. C. Allen.

Health and Disease in the Citrus Tree, Prof. Ralph E. Smith; Discussion, conducted by V. V. LeRoy.

The University Farm School, Judge Peter J. Shields, Discussion, conducted by Prof. E. J. Wickson.

In the evening there will be a reception tendered by the Woman's Club of Riverside to visiting members.

Thursday.

9:30 o'clock.

Investigations of Hydro-cyanic Acid Gas, R. S. Woglum; Discussion, conducted by Frederick Maskew.

Sulphuring Fruit and the Pure Food Law, Arthur R. Briggs; Discussion, conducted by B. E. Hutchinson.

Some Relations Between Soils and Fruits, Prof. W. W. Mackie, Discussion, conducted by James Mills.

1:30 o'clock.

Horticultural Commissioner's Session, in charge of S. A. Pease.

What is the True Value of a Certificate in Shipments of Nursery stock? C. E. Bemis.

Causes of New Infestations, P. D. Fowler

Relations of Horticultural Commissioners to Nurserymen, H. P. Stabler.

Quarantine Between California Points, R. P. Cundiff.

EVENING, 7:30 o'clock.

The White Fly and its Control, Illustrated with Stereopticon Views, by J. W. Jeffrey and E. K. Carnes.

Friday.

9:30 o'clock.

Maintaining the Fertility of the Orchard, Frank L. Palmer; Discussion, conducted by Prof. Ralph E. Smith.

Date Growing in Southern California, Prof. S. C. Mason.

Some Points in the History of Caprification and in the Life History of the Fig, Walter T. Swingle.

The Eucalyptus for Use and Adornment, F. P. Hosp; Discussion, conducted by Leonard Coates.

Saturday afternoon will be given over to excursions to orange groves and surrounding towns.

A great treat is in store for all attending.

The local committee which is pushing plans at Riverside, is composed of Messrs. H. B. Chase, James Mills, E. W. Holmes, C. E. Rumsey and J. H. Reed.

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Every ounce of material that goes into a Studebaker wagon or buggy has the "Studebaker Reputation" behind it. Over 50 years' experience has taught us how to make vehicles that last. Every axle—every spoke—every hub—bolt and screw is made by experts. The result—the finest wagons possible to produce have made the Studebaker the

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The absolute reliability of the Studebaker line appeals to all careful buyers—those who want honest value. See the Studebaker agent. If you don't know one, write to us. If you will mention this paper and enclose a two-cent stamp we will send you the Studebaker Farmer's Almanac for 1908—FREE.

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For Season 1908
Valencia, Eureka Lemons, Thompson and Washington Navels, Grape Fruit
C. L. McFarland & Co.
Riverside, Cal.

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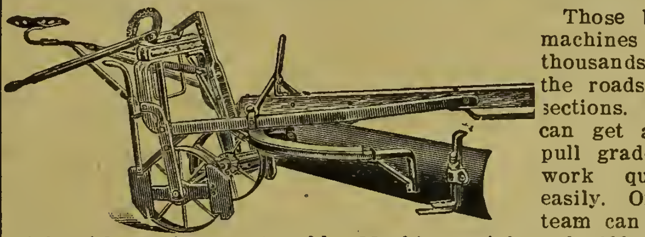

Those big costly road machines have stopped thousands from making the roads better in their sections. But now they can get a light, easy-to-pull grader and do the work quickly, cheaply, easily. One man and a team can do almost every job with no fuss or trouble. Machine weighs only 600 pounds. It is the

20th Century Grader

Made of steel and Malleable iron; strong, stiff and adjustable to every need in road building, land leveling, ditch digging, railroad grading, etc. Our handsome new booklet is free and tells all about the machine with large illustrations. Send now for it and learn how to make good roads cheap. Address

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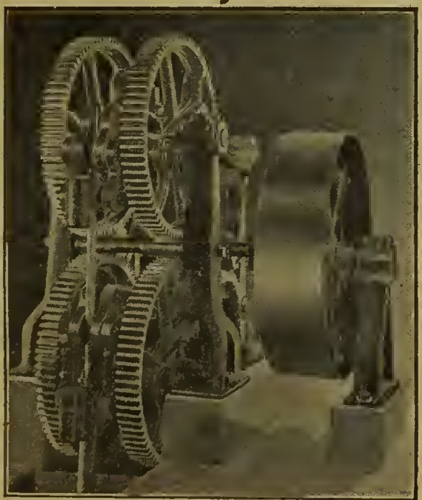

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NEW POMONA
DOUBLE PLUNGER
DEEP WELL
PUMP HEAD
for raising water for all purposes. It is highly efficient, thoroughly reliable and the smoothest running deep well pump made. It is built in three sizes from 10 to 40 Horse Power. Send for new catalog to

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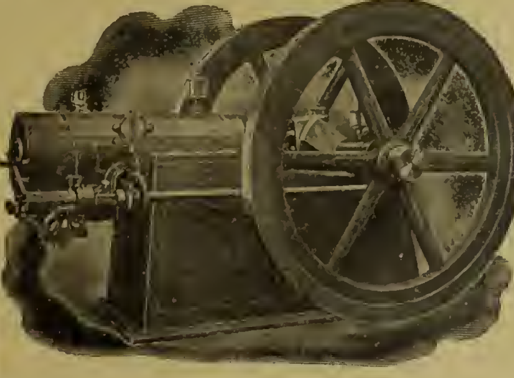
or C. H. Weed, Porterville, Cal.



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Have Stood the Test
14 Years
Fully guaranteed. Most simple and economical engine on the market today. You can't go wrong on a Columbus
Columbus Engine Co.
121 South Los Angeles St.,
Los Angeles, Cal.

NOW READY

—THE—

Vermorel Torpille Knapsack Sulphuring Machine

We could not supply the demand last season, so would advise you to place your orders now

The most satisfactory dust sprayer made. Easy to carry—easy to work—outlasts all others—no getting out of order—makes sulphuring **EASY WORK** and saves sulphur. Recommended by users as the **MOST** effective sprayer used for the purpose.

SOLD BY

The H. C. Shaw Company

General Agents for the United States **Stockton, Cal.**

Placer Nurseries

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

Write us.

Silva & Bergtholdt Company

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TREE TANGLEFOOT

A Sticky Preparation Applied Directly to the Bark of the Trees

Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm Wherever the Gypsy or Brown-tail Moths, Tussock Moths fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials.

THE O. & W. THUM COMPANY

Manufacturers of Tanglefoot Fly Paper **Grand Rapids, Michigan**

Fruit Trees

Thousands of dollars saved by farmers by patronizing us. 50,000 Lob Ingir Smyrna Fig trees, 4 to 6 ft. in lots of 100 at $12.50; 500 and up at $100.00 per 1000.

We won the Gold Medal at the Lewis & Clark Exposition. This is the world famed Fig of commerce.

We have a large stock of Bartlett Pears, Royal Apricots, Orange and Lemon trees, as well as other nursery stock.

Bed rock prices. Send in list of wants. Address

Maywood Colony Nursery, Corning, Cal.

W. Herbert Samson, Prop.

WALNUT TREES

Having about six thousand Walnut trees that have to be moved on account of close of lease, I will make **special prices** on them for the **next thirty days.** These trees are two and three-year-old Santa Barbara soft shell variety, stocky and well rooted, running from four to ten feet in height. Seed selected from one of the best orchards in Orange county. A rare opportunity to get good trees at right prices.

Geo. B. WARNER, Nurseryman

Sunset Phone Red 92 **Santa Ana, Cal.**

When writing advertisers, mention Cultivator.

Deciduous Fruit Cult

STRINGFELLOW METHOD.

The Stringfellow method which Mr. Mills refers to below is, in a word, the severe cutting back of both root and top of trees at time of planting. The cutting back is so severe that there is little more than a "cutting" left of the young tree.—Ed.

WHILE we were in the Imperial valley last year we had occasion to notice a couple of apricot orchards that were planted after the Stringfellow method, and we must say that the results were not satisfactory. In both cases the stand was less than 25 per cent. The owners did not seem to condemn the method as they said they received their trees late and the hot weather came on before they got started. We are inclined to think that following the Stringfellow method to the letter in that climate is somewhat too severe, though we think the roots may be trimmed to two or three inches from the point where they fork. Experience gained at the Missouri Experiment Station should be of some value to planters in the desert regions. The trouble here seems to be to get plants to live over the first summer, unless planted under the best posible conditions, and these are in most cases unknown at the present time. At the Missouri station it was found that peaches were the least injured by pruning after the Stringfellow method, but when the trees live over the first year, they invariably develop into good trees. Many large commercial growers have adopted the Stringfellow method while others are not satisfied with it and follow the general method followed in the past. It is generally conceded that a medium between the two methods is perfectly safe and better than the old way of leaving the usual amount of fibrous roots. In this way, at least, the Stringfellow method has been of much service to growers all over the west.

PLUMS.

WHEN the Kelsey Japan plum was first introduced into California, is was considered a great acquisition and great things were predicted for it. It was tried near the coast in Central California and the color it developed was all that could be desired, but later plantings in the interior valleys proved it to be poor in color, though it is of fine quality wherever it is grown. Wickson, a plum of the same type and originated by Burbank, is superior to it in several ways. It is a more regular bearer, will color during shipment when picked at the proper stage, but while still firm and of a green color. When it is picked in this state it gives off a delightful aroma when matured. It comes in ahead of Kelsey, being out of the market when that variety ripens.

Wickson plum is not classed as a canning plum, but is one of the best sweet plums for home use as a canner.

This plum is apt to bear an enormous crop every other season and alternately a light one or no crop at all. For this reason it should be pruned heavily each year so that it will bear the bulk of its crop on the old wood and force a new growth on which new fruit buds shall form every year. In addition to this, a moderate amount of thinning should be done after the fruit is past the dropping stage. All the heavy bearing Japanese plums should be handled in this manner.

Wickson plum does n
well on peach root, and ju
past experience with Kelse
cot, we would not hestita
Wickson on old apricot tre
best done by severely pr
apricot trees in July after
is off and budding the s
soon as they are large e
allowing them to lie [illegible]
spring.—J. W. Mills.

SULPHUR-LIME SP

Two new formulas have
posed for making the li
salt wash which should no
into action to kill scale and
sects before the foliage app
is to omit salt and use ca
in place of lime. The com
as follows. Water, fifty
powdered sulphur , ninetee
and caustic soda, ten poun
a paste of the sulphur with
than 5½ gallons of boili
At once add all the caus
which has previously been
to pieces the size of a hicko
smaller, and stir occasionall
an hour. At the end of th
44½ gallons of water, stir
wash is ready for use. T
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17½ pounds of slaked li
lime, made into a paste, is a
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ORCHARD NOTES.

No manure should be put
holes at time of planting. I
is needed it should be app
mulch on the surface.

Spraying, if not a necessi
least very beneficial; for t
orchard and garden a che
sprayer will answer the pur
But a larger outfit is nece
the trees and plants increas

One of the first requisites
good orchard is a suitable
High lands are preferable
they give good air drainage
gentle north or northeaste
is generally considered t
best aspect.

AGRICULTURAL SOC FORMED.

With a membership that
seven faculty men and eight
more prominent students in
lege of Agriculture, the Alp
a national technical agricult
orary fraternity was installe
University of California
evening. The initiatory ce
were held at the St. Mark's
Oakland, and were followed
mal banquet.

The Alpha Zeta is the leadi
letter society of the agricult
leges of the country, corre
in that department to the
Pi in civil engineering. It w
ized at the Ohio State Univ
1897 as an honor society and
a chapter roll that embraces
largest universities in the
The aims and purposes of t
nuty are the promotion and r
the standard of agricult
work of this chapter will,
present, be the establishment
ter equipped college of agricu
California. Only faculty n
and juniors and seniors are
for membership.

Orangehurst Orchard and
Company has been incorpor
Bakersfield, capitalized at
The business will be the gro
fruit.

es and Their Care

: OF THE HONEY BEE.

ter I had concluded to break
colony and start a new one,
to look around for a queen.
a queen that was waiting to
n starting a new colony, but
agle worker bee was willing
s in that new venture. They
re inclined to start a colony
own, and they did later. I
a colony of the bees which at-
business. If you infringe
eir rights they soon let you
here they are and who they
ow, this fighting instinct has
alue to the farmer. After he
or two battles with the honey
s on the lookout for some un-
emy.

things or all things the bee
due to instinct, yet man can
and build from his instinct to
erment. The bee industry is a
esson to humanity. They toil
aylight to dark, then to their
ey go for recuperation; not like
men who debauch half the
nd are unfit for duty next day.
re very economical. They lose
e when there is any honey in
and the weather is permitting,
do they allow any loafers
their premises. I cannot say
h for their honesty. The bees
l thieves, robbers and murder-
hey will take the last drop of
their neighbor has, and fight to
ath to get it.

zer.

ably the greatest value of the
bee to man is in the distribu-
f pollen from flower to flower;
appears that in the wisdom of
reat Creative Power that there
l be a law for the perpetuation
beautiful and useful species of
and flowers. So we have the
. Some one will ask why do
ur grasses, grains and fruits be-
mixed, until we have no special
ies. Here comes another law
t creative wisdom, that the pol-
f one species cannot act upon
er species to make them produce
or seed. Our hogs, sheep, cattle
orses have run in the same pas-
for generations untold, and they
distinct species yet, another fact
uit and vegetation; they do not
into bloom at the same period.
n mix your strawberry plants in
row or alternate the rows so as
ve them perfectly fertilized, yet
must have two varieties that
n at the same time or no berries.
can aid nature very much in very
things by studying her laws of
re.

e bee dives into a clover bloom
the one object of getting honey.
feet and legs become covered
the pollen. He dives into the
bloom scattering that pollen in
various blooms he visits.

me have declared that we would
no clover seed if we had no bees.
1876 I bought my first colony of
, and as they increased I gave
n box hives, about three feet long
d up endwise and hollow logs for
r homes, and without much care,
not out of bees or honey until
, when I quite farming. In the
ng of 1880 I had eighteen colonies
ch went into winter quarters. By
next winter I had thirty-five colo-
and had cleared over $300 in cash.

ciliatory.

here are some drawbacks to bees, but what business is there that has no failures? The following spring I had not a single live bee, but gallons of dead bees. I stocked up again, so I had bees for forty years, sold many dollars' worth of bees and honey, and ate hundreds of dollars' worth. A good dish of honey set before the wife and children has a very conciliatory effect upon them. The husband sometimes needs it. Try it.

Bees do not like loud words or loud actions. The first warning is a quiet buzz about the ear, the next one is a thrust of that little hypodermic needle and an injection or formic acid nature has provided them with for self-defense.—The Indiana Farmer.

Cutting Queen's Wings.—I believe that most of the scientific bee men and women who are so located have tried clipping the wings of the queen, one wing of each. It is a nice job and more than one beginner has also cut off a leg and never noticed. Now, however, they practice on the drones until they become expert. Among their supplies is a pair of clipping scissors. The one who understands the business will watch the bees until chance favors the operation, slip the scissors under the wing as the bee crawls over the comb—one clip and the wing is shortened so it will never fly again. It does not interfere with her productive powers but if she tries to go out with a swarm, she tumbles in the grass and will get stepped on if clumsy, inattentive feet are blundering around.

It pays the beekeeper to go visiting occasionally. Whenever occasion offers, take a trip around to other beekeepers, and a short stay with them may make you more enthusiastic when at home again. It may also help you to learn many new and valuable kinks that will save you money and trouble or unnecessary labor. There is nothing like "rubbing up against" others of our craft, and it will only make the bee-keeping ties stronger; for "we be brethren." This may eventually lead to the better organization of beekeepers throughout the entire country. "In union there is strength." I always feel well repaid after returning home from such trips.

Supplies are too high in price to tolerate poor colonies in expensive hives. The remedy is hardly "cheaper" hives, but better bees. A poor colony in a "cheap" hive will not give as profitable results as a rousing one in a good hive.

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Ever wear any California made shoes?

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For it is rot. California makes good leather. They come from all over the country to buy it, and a few months later they come back to sell us the shoes they have made out of it. Funny idea, isn't it?

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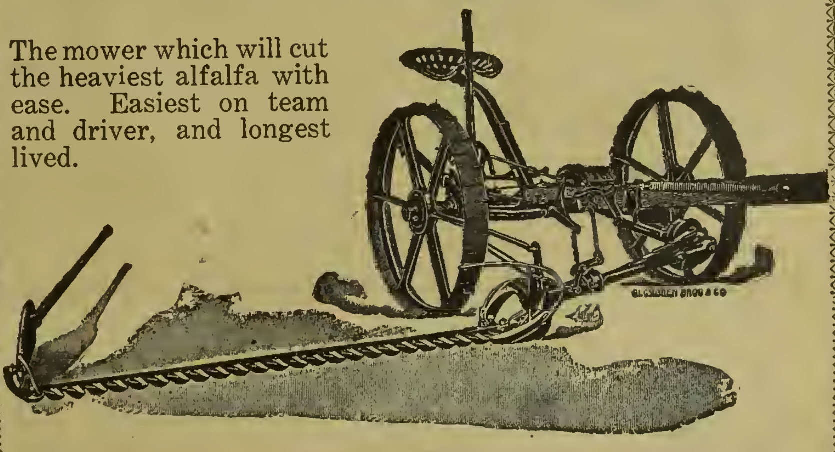

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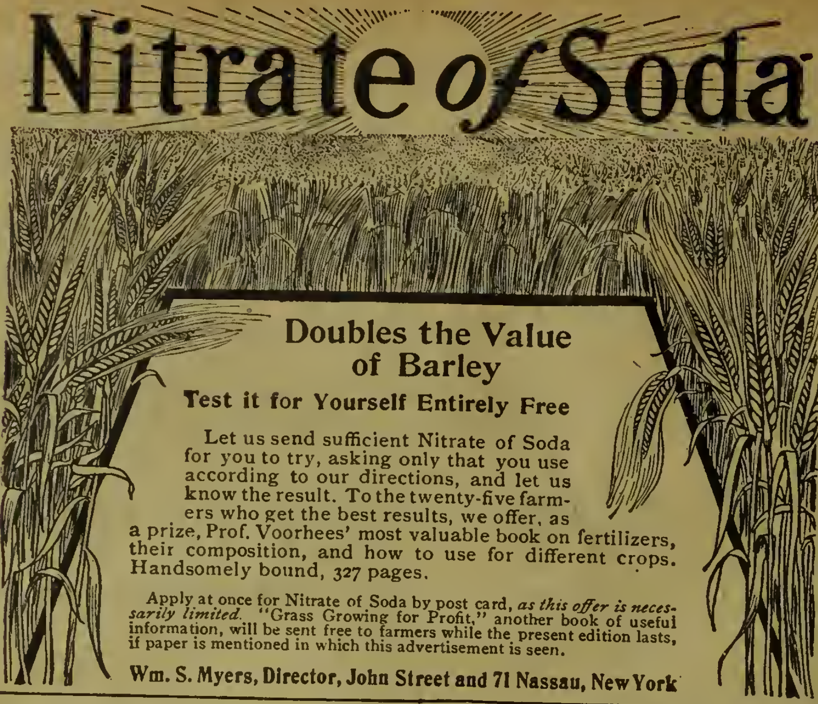

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The Vegetable Garc

STRAWBERRIES FOR MARKET.

FROM a paper on Small Fruits read by John Burr at the San Fernando Farmers' Institute, we quote the following on strawberries:

The business of growing small fruits for market at a profit to the grower is not one of chance or speculation, but an assured fact, and when we learn of the success that has been attained by our neighbors, it is surprising it has not been gone into more extensivelly in this locality. Taking into consideration the fact that this end of the valley is on the eve of an awakening which will surprise even those who have pinned their faiths upon its advancement for the past twenty-five years, and when that time comes the same question will be asked by the parties who come and purchase land for orchard purposes as is asked in every other locality. What can I raise to make expenses until the time that my trees bear? Your answer can be small fruits. Say strawberries, raspberries, blackberries and Loganberries. The question of transportation no doubt will come to your mind, but when that awakening comes you will hear the bells of electric cars as they ply back and forth between here and Los Angeles, and just as sure as those cars reach here, every one will feel the effects of that hidden power not only in seeing the cars move but its effect upon the advancement of this beautiful valley in general and San Fernando in particular. The soil around San Fernando for small fruits is equal to the best, being permeated with the chemical properties, so essential to producing a solid, firm and juicy fruit in all the different varieties that are raised here.

In selecting a location for a plantation of berries have as little fall on the ground as possible to get the best use of your water in irrigating. Give it a good manuring of well rotted stable manure, and if uneven or rough after plowing it eight to ten inches deep, run a leveler over the surface to smooth it off. Then measure the ground, making the rows for strawberries not less than two feet apart. Set your lines at the stakes, take a hoe and make furrows about two inches deep and set your plants from ten to twelve inches apart up to the line, the crown of the plant about the level of the ground. Continue in this manner until the plantation is finished. As you plant run water down the small furrows made by the hoe to settle the soil around the roots of the plant.

The best time to plant strawberries is October and February. Of the two I would plant in October as by planting at that time the roots get well established during the winter and you will get considerable fruit the first year. Keep the plants well watered and cultivated during the summer months. The plants will throw out a great many runners during the growing season, but it is best to keep them cut off. Towards October and November the water should not be supplied so plentifully as it is better to let the plants harden up and rest, as it is just as necessary (if you desire the best results) that plants and trees should have a season of rest as men and animals to do the rainy season commenc some manure between the off and dig up all the you which may have rooted cultivator did not reach d summer and either use planting new ground or p in a bed to be sold for spr ing. Then fork the manur is necessary to renew t in the soil, and unless the very cold your plants will put out new growth and bl early.

After strawberry plants fruiting for three years considered to have lived th usefulness. In Scotland deners trench the strawbe at four years. They tr ground two feet deep and low with the same crop.

If it is desired to plant t berries in the orchard trees are small I would n more than three or four tween the rows of trees, much better to plant on a ground by themselves as a any kind between the rows interfere with the cross c which in summer is very to your orchard.

A FINE BLACKBERR

The Westerner speaks of a blackberry which has prov satisfactory in Oregon. W seen reference to it in Calif pers and usually as not so here as some others. Of it t erner says:

The Oregon Evergreen is and most profitable blackb garden cultivation. It grows fection in Oregon and Wa and is getting pretty well s over the mountains and foo the Puget Sound basin. The true to name in that its leave green throughout the wint there is never a season w branches are bare. It produc derful crops of berries and c to put out blossoms and fruits until late in autum fruit is of a semi-wild flavor solid that it can be shipped thousand miles and placed market in a fresh condition.

Where the plant originated of the unsolved problems. O is to the effect that a mission covered the fruit growing in moan Islands and carried p the Williamette valley of Ore set them in a garden. From ginning the plants have be tributed over the Pacific Coast But another theory is that t are native to the rainy dist the Puget Sound country claimed that the first cultiva ries were grown in Puyallup ington. The originator picke from his first three vines for ter of a century. He stated b death that he had clearly strated that the blackberry w turn one thousand dollars every year.

The evergreen berry has b making of two thrifty towns Puyallup valley. Its fruit plucked from nearly one thous dividual patches and shipped load lots to the cities of the mountain region. The surp handled by two large canneri the demand for the berries in every year. There is no dou that the berry will become a crop in many sections of the c It begins bearing after three from the planting and contin many years. There is nothing ious about the plant or its fru requires no particular care in planting or cultivation.

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The Ornamental Garden

BEAUTIFYING THE HOME GROUNDS.

THE ART of landscape gardening and of beautifying farm home grounds is too often sorely neglected. This is probably due to a lack of knowledge of how to do it. Therefore I will endeavor to name some principles to be observed in the ornamentation of the country home; details to be varied, of course, to suit varying conditions, says a writer in Farm, Stock and Home.

In the artificial adornment of grounds by means of plants, nature is our best instructor. From her we can learn the proper use and combination of the different plants necessary to produce the most pleasing results. The first essential is a suitable plan; in making which the amount of land to be used, money to be expended for the purpose, soil, climate, exposure, pecularities of the site, and the kind of treatment, whether formal or natural, should all be very carefully considered.

Follow Nature.

As a rule, country homes should be improved in the natural style, as it will then be more in harmony with the surroundings. Small places, however, can be developed only in the formal style. Before beginning the work an outline or map should be drawn showing the location of all structures, kitchen garden, walks, drives, etc. In planting, the aim should be to hide all structures which are objectionable or add nothing to the beauty of the place; to locate trees and windbreaks so as to allow a good view of places of interest; and arrange the windbreak so as to afford the most protection with the least obstruction to views.

A variety of trees and shrubs should be used, which should be grouped as much as possible, and in a way to produce the most pleasing effect. Trees and shrubs should not be scattered all over the lawn, but have as much unbroken greensward as practicable.

Not Too Many Walks.

On small places, walks and drives should be few, and as straight as possible; on larger places they produce a very pleasing effect if curbed. It is usually advisable, however, to plant a bunch of shrubbery or place a flower bed in the curve, as this makes it appear necessary. With trees, shrubs and flowers, pleasing effects can be produced. While these possess an intrinsic decorative value, the value is greatly enhanced by the greensward in which they are set. A perfect lawn is one of the rarest possessions of a country home. Kentucky blue grass produces an almost perfect lawn in sections where there is a heavy soil and moisture is plentiful. In light, sandy soils, however, it should be supplemented with white clover.

Lawn.

The chief charm of a lawn consists of an even stand of grass of a uniform color, kept closely mown. In order to secure a uniform color a pure grass must be used; or if a mixture, select kinds that will not produce a mottled effect as to color. Kentucky blue grass and redtop make a very satisfactory combination. For poor soils white clover should be used in combination with the others.

In planting trees and shrubs they should, as has been stated, be grouped in bunches. The trees should be planted so as to form windbreaks, and shrubs are very effective as screens or masks for walks, drives and unsightly buildings or other objects. Each group or plant should have a reason for occupying the particular place it does. Pleasing results from grouping shrubs do not come from large numbers of one variety together, but from the blending and mixing of different varieties of different colorings and habits of growth. Each group should represent some idea of spirit, or rest, and always of beauty. This effect comes from the habit of growth. Gratifying effects may also be obtained by grouping together shrubs which will produce a floral display all summer. Glaring contrasts should be avoided, but harmonious contrasts give beauty and variety.

In grouping, shrubs with an upright habit should occupy a rear or central location, the others arranged in regular gradation to the border line, which should be given up to the small, wide-spreading sorts, so that no bare stalks shall be seen at any place. Nature herself is the best guide. Her groups are always made up of a variety of plants which are pleasingly adapted to mingling together for the best effect.

In all planting it should be the aim to conceal the work of the gardener as much as possible. The bays of curved walks and drives should be filled with groups of shrubs, so that if there is no natural object for the road to make a curve around, the plantation will serve as one, and in so doing it produces one of the best effects possible in landscape gardening. Planting bays and masking walks are among the fine arts of landscape decoration, and produce very striking results when properly done.

Influence.

Our surroundings while young have a great deal to do with our after life. If we grow up in beautiful surroundings and closely in touch with nature we will be much better for it, therefore beautifying the home grounds and refining the home circle should receive much more attention than is usually given them in the farm home.

Minnesota College of Agriculture.

LEAF CUTTINGS.

Many thick and heavy leaves may be used as cuttings. Leaf cuttings are most commonly employed in the showy leaved begonias, in succulents and in gloxinias, but many plants can be propagated by them. The whole leaf may be used. It is simply laid upon moist sand in a frame and held down by splinters thrust through the ribs. The wound made by the peg induces the formation of roots, and a young plant arises. A half dozen or more plants can be obtained from one leaf. Some operators cut off the ribs instead of wounding them with a prick. Many gardeners prefer to divide the leaf into two nearly equal parts and then set each part or the better one upright in the soil, the severed edge being covered. Fewer plants, often only one, are obtained in this manner, but they are strong.—Bailey.

Work before you rest.

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A STEP FORWARD.

In the nineteen years since the birth of the Cultivator there have been several changes in its ownership and many in the writers and working force. With these changes from year to year have come many improvements and a steady upbuilding of the paper. Each year its circle of friends and readers has grown and today it is recognized as the leading paper of its class published on the Coast.

And now another change—which is deemed advisable—a larger organization to meet the needs of the rapidly increasing business and to make possible the many plans for the betterment of the Cultivator. To secure these ends a joint stock company has been formed of persons interested in the agricultural, stock and fruit-growing interests of the state and they hope to make the paper stronger and better than ever. All the department writers will be retained and others added. Mr. C. B. Messenger will remain with the paper as editor in charge and in the general policy of the paper there will be no change.

In making this change we regret the loss of Colonel J. J. Steadman, who for the past five years has so ably conducted the editorial policy of The Cultivator. He is a man of ability; a man of sterling honesty; a ready and forceful speaker; a strong and vigorous writer; a man who has many warm friends among his personal and business associates. And, while he retires from active work to enjoy a well earned rest and to recuperate, we hope for occasional contributions from his virile pen and shall always depend upon his sagacious and friendly counsel when needed.

The officers of the new organization will be announced later as also the plans for the further upbuilding of the paper. Mr. H. A. Perkins, who has had charge of the business management of the paper will retain that position.

CULTIVATOR PUBLISHING COMPANY.

* * * *

The above announcement by The Cultivator Publishing Company would seem to be sufficient except that in retiring from the editorship of the paper I desire to extend my personal thanks to the many friends I have made during my connection with it, for their unfaltering devotion to me and to the Cultivator.

I expressly number in this connection my former associate, Mr. H. A. Perkins, whose business sagacity and moral honesty have been most valuable adjuncts in placing the Cultivator where it stands in the business world today. I number in this connection the editorial staff, the strength of which has been recognized by me and by the public.

My large interests in other business lines now demand, for some time at least, my close attention. I need rest from desk confinement and the care which the Cultivator requires of me. I relinquish my duties with more than passing regret, but in the certain knowledge that the future of the Cultivator will be amply conserved by the new corporation which will conduct it from this date.

J. J. STEADMAN.

RAIN MAKERS.

If it were not a fact that a "rain maker" secured an agreement from some of the largest and shrewdest bankers and manufacturers of Los Angeles, a few years since, a contract to pay to him a certain sum providing he "produced" 18 inches of rainfall the following season, there might be the laugh on the farmer who is often credited with being easy game for the gold brick artist. But as stated above, the fact that these men who handle affairs in a large way, proving easy game to the "rain maker" shows that the farmers are not the only ones who are caught. Yet, on serious second thought, one cannot prevent a smile as he thinks how easy these business men and farmers have been caught by such a fake.

The fact is that last year the rain maker "made good" or in other words made a lucky guess, and the farmers felt so tickled that they paid the agreed price. This led to a contract this season and the farmers about Crow's Landing on the west side of the San Joaquin valley agreed to pay, we believe it was $1,000, providing 12 inches of rain be "produced" by April 1st. On April 1st the time was extended to April 15th. Still no more rain. One reason given by the rain maker was that at one time he was unable to secure the proper chemicals from the East.

Had the condition been right up and down the coast and we had been given a good year, we doubt not that the farmers would have been so greatly pleased that the contract would have been made good. As a suggestion, which we may be permitted to make, we may say that the Cultivator will be glad to enter into the same contract with people of any section next season and if the farmers there are granted the amount of rain which they may wish, we will be glad to receive the sum of $1000, and in order to win it will agree to send up any amount of "hot air" which may bring down the aforesaid rain.

This amount of money will be very acceptable to the Cultivator, but we sincerely hope the farmers will not be caught delivering good money to any fake proposition on the supposition that the "rain maker" is "making" anything.

THE SMALL RANCH.

"Ten acres enough" is a catchy phrase in advertising many sections in California. Not only catchy, but true. In conversation with a successful small fruit grower recently we were told that he could keep a good force of men busy on five acres and he had about reached the conclusion that five acres is a large enough holding for any one. Of course, in stock raising or grain growing, conditions are different, but for the fruit grower or the small farmer there is too little attention given to intensive culture.

Let each California farmer increase the productiveness of his ranch by giving it the very best possible attention, and we believe a
eral thing, instead of wishing to acquir
holdings he will have land to dispose o
the same time reap greater profits. If
done the day will be hastened when C
will be filled more than it is today wi
homes and opportunity will be made for
ing our population many fold.

SUPPLEMENTAL FEED.

Those who have followed Mrs. S
articles in the Dairy Department have n
she has advised the use of soiling cro
beets and every possible aid i
feeding this dry season. That the drou
make a shortage of feed now goes with
ing. The careful consideration of th
by the provident farmer will fit him th
to meet the conditions which are bef
and may bring him through the season
same amount of net profit as if given t
amount of spring rain. Stock beets is,
one of the best and the easiest grow
foods, but in addition there are the s
pumpkins and many others. Above all
forget ensilage, and end the season wit
filled silo.

MONEY IN SPRAYING.

The great success secured by o
grower last spring which was secured
face of the fact that many neighbors
grower had only utter failure to their c
more than ever called attention to the
of guarding the celery crop against th
While it is to be regretted that this nece
ists, it is a matter for congratulation
State University has had Prof. Smith in
ing the matter for several years and
learned that the simple Bordeaux mix
proven a most efficient remedy and that
cation is so economical that $6.00 to $1
acre will cover the season's spraying.
excusable for any grower to forego sa
crop when it may be insured for so sma
vestment.

THINNING FRUIT.

The season is approaching when
fruit will be before the fruit grower.
the cantaloupe growers of Imperial val
been through their field pulling out, or
clipping off with scissors the surplu
"Always room at the top" applies to fru
ing as in few other callings, for the fines
commands not only the best prices, but
of glut is the only fruit which will sell a
it to the grower. In the market quotat
often statements of over supplied mar
lowed by the qualification "strictly fancy
demand and commanding fair price wit
grades begging for any offers."

In a season when a grower is given a
ting of fruit the only way to grow th
stock is to see that it is properly thin
the tree kept supplied with moisture s
to perfect its product.

WARNING.

On March 5 an advertisement
serted for the Callenox Sprayer Co. of N
In our issue of March 26 we gave a war
tice. The company claims to be reliabl
serts it "does not care what mercantile
say." Such being the case, extreme c
urged.

At a time when the State is throw
its doors to the sailors of our battlesh
and sending to it carloads of oranges
products, it may seem a little harsh tha
growers find it necessary to promptly ar
one picking a single piece of fruit fro
trees. This crusade against orange ste
gan a few months ago at Pomona and
taken up by Placentia and other section
evil has become a serious one to orange
whose place happens to be on or near
frequented by automobile parties. And
to the grower is far greater than one wh
so situated would imagine. Therefore,
seems inhospitable, we cannot blame th
who raises for profit or for bread and b
protect his own.

gricultural Notes of the Pacific Coast

rthern California

cucumbers are on sale at Peta-

ots promise a bumper crop in
ounty.

irst cutting of alfalfa is being
. Anderson.

tion ditches at Gridley are
full of water.

s have appeared in the or-
of Suisun valley.

ation has begun at Gridley,
s earlier than for many years.

Ladies' Improvement Club at
na is distributing flower seeds
ol children.

fruit outlook at Anderson as a
thing is good, but much dam-
s done by frost.

dsburg wine grape growers
rganized for protection and ad-
nent of their interests.

trymen are handling their own
hrough their co-operative store
uccessfully at Petaluma.

and shrub planting has been
tinued on the University Farm
vis on account of the drouth.

l contracts are being made with
rmers at Gridley for cucumbers
canning factory at Haywards.

Armsby Company will operate
ying and canning factory at
City. They will employ 300

rmer near Gridley is going to
sunflowers for seed and for fuel.
pects to make fuel from the

French walnuts in the neighbor-
of Anderson are not yet in
and it is hoped a good crop will
ven.

California State Board of
n has stopped the dumping of
in any of the rivers of the

t thousand acres of sugar beets
been contracted for by the Sacra-
Valley Sugar Company at
lton City.

ing north winds did damage in
sections of the Sacramento val-
Asparagus at Isleton has been
ly injured.

ne beet sugar land near Hamil-
City on which the first planting
ruined by grubs and wire worms,
be replanted.

ter county's fruit crop promises
vy output for this season. Rain
d be much appreciated, but it is
ght most of the fruit crops will be
ed through without further rain.

National Plant Introduction
en at Chico is distributing a
sand pounds of seed corn to Sac-
nto valley farmers. There are
varieties one of which produced
ushels per acre last year.

e late frost which hurt some sec-
at Gridley is now said to have
slight damage. The Gridley
ld reports that the outlook for
peach crop is splendid and prunes
be good. Almonds on the river
oms were injured.

rs. A. Fickas, of Anderson, while
e Cultivator office a few days ago
rted that the output of prunes
that section of Shasta county
immense this year and the farm-
ealized invariably good prices.
erson is becoming a great prune
er.

Central California

Tulare is planning for a festival of music and flowers.

Driest March in 30 years all over the San Joaquin valley.

A new sheep inspector has been appointed for the Porterville district.

Fresno county will join with the government in employing forest rangers.

Raisin growers who pooled their issues on the holdover raisin crop have received very satisfactory offers.

One firm at Hanford recently shipped a solid car of eggs, which contained 400 cases, to Los Angeles.

The Horticultural Commission of Kern county has discovered that the dreaded peach moth is in that county.

The attack of the thrips on prune trees this year in the Santa Clara Valley is said to be milder than heretofore.

Winter irrigation practiced largely in San Clara orchards is said to be of great advantage to the trees in this dry season.

Entomologist Morris of Santa Clara Valley urges that the campaign against the peach tree borer be made more strenuous.

Roselle or jelly plant has been proved quite a success in San Jose and quite extensive plantings will be made this season.

Pear trees of Kern county have been seriously affected with blight, and orchards are not receiving the attention they should.

An old well which was flowing before the earthquake on one of the school grounds at Watsonville has never flowed since.

At the recent Farmers' Union meeting at Selma the attendance was very light owing to other attractions, and only a temporary county organization was formed.

At a meeting of the Parajo Valley Orchardists Association a proposition was made to establish a steamship line between Port Watsonville and San Francisco.

The California Pioneer Society of Santa Clara valley has adopted strong resolutions condemning the work of State Forester Lull in regard to Redwood Park.

Miller & Lux have a large acreage of wheat planted on their ranch near Bakersfield, which they are irrigating this season from which an immense crop will be harvested.

F. Roeding of Fresno has presented to the city a tract of land to be added to its park, and his son Geo. C. Roeding of the Fancher Creek Nurseries is to furnish the trees and plants.

San Jose says she proposes to be the "spotless town" of the coast. An appeal has been issued to the public to have the streets dressed in her best clothes for the coming of the fleet.

Dudley Moulton in charge of investigation for the Department at Campbell who has made a special study of thrips, has recently issued a bulletin giving the results of his investigation.

State Forester Lull has agreed to appoint a couple of special rangers to control the foothill district of Tulare county during the coming summer. The salary, however, is to be paid by Tulare county.

Southern California

Date culture is being extended in the Coachella valley.

Orange trains have made much better time this year than formerly.

Farmers of west Riverside have decided to give a warm reception to grape thieves.

Orange growers at Highlands claim that there is no red spider whatever in that section.

Orange Country Poultry Association is doing good work for its members in ordering supplies.

A persistent fight will be made this season by Orange county celery growers against the blight.

About a thousand acres of lima beans will be planted in the neighborhood of Talbert this spring.

Veterinary Inspector Johnson of the Bureau of Animal Industry recently visited Imperial Valley.

Melon growers at Coachella and Imperial valleys will make efforts to control the melon aphis with dust sprays.

Redlands is to vote upon an ordinance which will control the planting of shade trees along its avenues.

One trainload of California oranges consisting of 25 cars recently sent to Des Moines, Iowa, and from there distributed, sold for $23,404.

The suit between L. M. Holt and the California Development Co. has been called off and Mr. Holt's stock purchased by the company.

Cabbage market has improved somewhat and is now quoted some $2 or $3 higher than a few weeks ago when the highest price was $5.00 per ton.

"Grown in California" is becoming the slogan of many fruit producing sections and it is probable that it will be appearing more and more on fruit packages.

Fullerton vegetables have been going forward at a more rapid rate than before in its history. Within one week the Vegetable Union shipped 25 cars of cabbages.

Much celery acreage in the Peatland section will be planted to crops other than celery this year. The farmers believe that rotation will improve soil conditions.

An Imperial Valley rancher has introduced seeds of the Chico Zapote which have been planted at Calexico and Mexicali. It is a new fruit and thought will be profitable.

H. J. Whitley of Los Angeles has just returned from a trip to the Nile delta and he expects knowledge there gained to be of use in his large agricultural interests near Corcoran.

The Redlands Orange Producers' Company has made some tests with packed oranges this year and have found that with proper care in picking and packing oranges will remain good for four months.

Notwithstanding a fair market condition has prevailed this season on oranges, the returns to the grower will not be as big as they should be to give the proper interest return above the cost of production.

Brawley will have cantaloupe day on June 10th. Everybody visiting the city on that day is promised a feeling ch will be worse than that which the small boy used to have after a session with the green appe tree.

The Coast

Eggs at Portland are selling at 16 cents.

'arleton creamy at Twisp, Wash., as just reopened.

Immense plantings of onions are being made in Oregon.

Wenatchee, Washington, shipped 1322 cars of fruit during 1907.

Bellingham, Washington, has a new flour mill of 250 barrels daily capacity.

Prices of grain sacks at Walla Walla, Washington, this year will be 7½ cents.

Walla Walla, Wash., farmers are making vigorous fight against foul brood.

Finley, Washington, is beginning a harvest of an immense yield of strawberries.

The annual live stock show of Coralis, Oregon, will be held May 15th and 16th.

The recent horse show at Bozeman, Montana, was the most successful in its history.

Orchardists of Juliaetta, Idaho, are making a vigorous warfare on San Jose scale.

Farmers at Palouse will make experiments this year of shipping their grain in bulk.

Woodburn, Oregon, enjoyed a big day with parade and speeches at its recent horse show.

In some sections of the lumbering regions of Washington fine ox teams are still in evidence.

Many cattle raisers along the Salmon river, Idaho, are giving up cattle raising in favor of sheep.

Walla Walla farmers combined to fight the floods which recently did great damage in that section.

One orchard of 12,000 apple trees will be planted by the Columbia River Fruit Company at Wenatchee.

Representative dairymen of Tillamook county, Oregon, have organized a Holstein Breeders' Association.

Wheat farmers of the Inland Empire plan a farmers' congress to be held at the Spokane fair next fall.

Lewiston orchardists are planting potatoes between rows of trees claiming its clean culture is beneficial.

Fruit growers of Latah county, Idaho, have organized and incorporated for the purpose of selling their own fruit.

Whatcom county, Washington, has issued its first land registration certificate under the Torrens system recently adopted in that State.

The ravages of coyotes amongst the sheep of Western Oregon are so disastrous that the sheep men are appealing for a coyote scalp bounty law.

Shippers of apples from Portland, Oregon, into South Africa have received word of their arrival in good condition and selling at a satisfactory price.

The Oregon hop growers have made a sale in one bunch of 25,000 bales to be shipped to England. Other sales have been made near Portland at 8½ cents.

The Oregon Railroad & Navigation Co. is planning to establish an experiment station near Walla Walla, Washington, in order to establish more scientific farming methods.

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612-Egg Size, $40 340-Egg Size, $30
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Send for free 32-page Success Incubator Catalogue. Contains the most interesting poultry lectures ever written.

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Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed: Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.
Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

The Jubilee Incubator

Has proven a winner. Ask the colonists who are using them.
Coulson's Special Chick Food and Egg Food
always in stock.
Poultry and Stock Foods. Sole agents for International Stock and Poultry Foods, Kow Kure, Coulson's Egg Food, Darling's Beef Scraps, Chamberlain's Chick Food.
Seeds, Plants and Bulbs
Write for our 1908 Catalogue
GERMAIN SEED COMPANY
326-330 S. Main St. Los Angeles, Cal.

BLOEM & VANDERGOOT
Black and White Poultry Yards
Successors to Ed. M. Burnell
Columbian Wyandottes exclusively. A few choice trios for sale. Eggs per setting $3.00 and $5.00. Eggs per 100, $15 and $20. Stock a matter of correspondence. LOCK BOX 51, GLENDORA, CAL.

Black Langshans Well, we won again at Los Angeles. Two firsts, one second, one third on five birds shown. Best stock ever in show room in California. Eggs, $2.00 to $5.00 per 13, $10.00 to $20.00 per 100.
White Rocks Large and vigorous. Improve your stock with a setting or get a fine flock with an incubator lot. Eggs, $1.50 to $2.50 per 13, $8.00 to $12.00 per 100.
S. C. White Leghorns Order eggs now, we have plenty of them. Have had all winter, great big white ones. Eggs, $1.00 to $2.00 per 13, $6.00 to $10.00 per 100.
Phone East 915 Foster's Poultry Yards, 128 W. Avenue 41, Los Angeles

Profit in the Poultry Ya

We solicit short articles of a practical nature from the fancier and breeder, giving their experiences with poultry. All inquiries pertaining t management, disease and its prevention will be answered through these co

PRESERVING EGGS.

EGGS are cheaper just now than they have been for a number of years. This, when we take into consideration the high price of feed, leaves very little profit for the producer. Every poultryman, whether large or small, ought at these times of low prices to pack or presrve his eggs until the market is better, which will probably be before a great while. Many of the eggs that are marketed now are shipped to the larger cities and put in cold storage until prices are better, thus giving the profit to the produce and commission men. This can be controlled to a certain extent by the producers if they will organize and ship their eggs direct to cold storage and hold them until the prices are such that the producer will secure a reasonable profit for his labor, feed and investment. We understand that there are a number of such organizations in the State, and we believe that the time will come when every locality will have its association just as the orange and lemon producers have their organizations. Thus they will be able to take care of the overproduction and be in a position to market at the proper time their product.

Immediate Relief.

Of course this offers no immediate relief of the situation, but the small producers can pack their eggs for a time and be reasonably sure of a better profit on their eggs.

For the benefit of those wishing to pack their eggs in water glass, we give the recipe for use of water glass.

Water Glass.

Use pure water that has been thoroughly boiled and then cooled. To each 10 quarts of water add one quart of water glass. Pack the eggs in a jar and pour solution over them, covering well.

Keep the eggs in a cool dark place. A dry cool cellar is a good place.

If the eggs are kept in too warm a place the silicate is deposited and the eggs are not properly protected. Do not wash the eggs before packing, for by so doing you injure their keeping quality, probably by dissolving the mucilaginous coating on the outside of the shell.

For packing, use only perfectly fresh eggs, for stale eggs will not be saved and may prove harmful to the others.

Water glass is a very cheap product, that can usually be produced at not to exceed $1.00 per gallon. Water glass is sodium and potassium silicate, sodium silicate being usually the cheaper. If wooden kegs or barrels are to be used in which to pack the eggs, they should first be thoroughly scalded with boiling water, to sweeten and purify them.

We also quote from a bulletin issued by the Arizona Experiment Station, on preserving eggs. Although we do not quite agree with them as to water glass being expensive and hard to obtain away from commercial centers. For it is advertised in our columns and is very reasonable as one dollar's worth is enough to preserve 1200 eggs.

The preserving materials seal up the pores in the shell and thus prevents the entrance of bacteria as well as evaporation and co shrinkage of the egg conter old method of greasing the make eggs keep better depe this fact. Such eggs cannot because the impervious shell permit the escape of the enc which expands when he bursts open the egg. By s commoner purposes the egg economizes the fresh egg there is an ever-increasing for use as raw food in the t of certain diseases.

The Packing.

When eggs are to be ke short time only, one of t methods of packing is suffic this purpose they are emb some fine material such as oats, sawdust or salt. Care taken that the packing m perfectly dry and free fro There is always danger of eggs by the growth of moul inside of the shell, as the w frequently observed. A bette said to be the use of egg These are arranged in a place and are provided wi so that the eggs may be end. Handled in this way, said to keep better than when Preserving in some chemic tion is, however, a much safer for general use.

There are two solutions used for preserving eggs, which has its advantages an vantages.

Limewater Method.

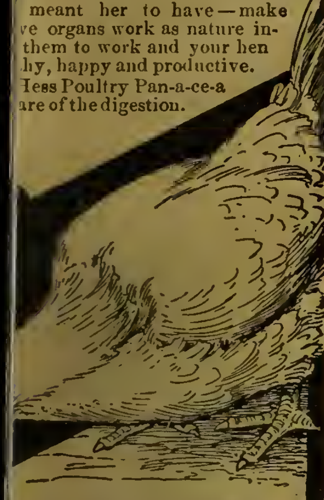
The commonest and oldest vative is limewater. A few of quicklime are slaked in a vessel of water, and after the of lime has settled out the clear is poured over perfectly fresh e a clean jar. A very small amo the slaked lime may then be to replace the lime which will arated by the action of the air. a few days a thick crust w on the surface, which should disturbed, for it prevents eva and excludes the air. Some to the limewater and claim proves the quality of th Limewater preserved eggs w well and are serviceable for poses excepting to fry, the y holding up well and the eg apt to become mussy. There great tendency for the white to watery, but this does not ren egg unwholesome. They are serviceable for baking and f purposes as fresh eggs, excep the whites cannot be beat great advantage of this me the ease with which lime m tained, as it is readily acce the most remote places.

Water Glass Method.

The other common preserv water glass. This is diluted from ten to twenty parts of but even greater dilutions will when the eggs are to be kept short time only. We have obs that the stronger the water gla lution the less apt the yolks ar break when fried. Water glass better results than limewater, difficult to obtain and quite

DR. HESS
ltry PAN-A-CE-A

k how exactly contrary to nathe condition of a hen shut in : or closed run. Is it a wonder pes about, lazy, sickly, unpro-? Give the food elements meant her to have—make ve organs work as nature in- them to work and your hen hy, happy and productive. Iess Poultry Pan-a-ce-a are of the digestion.



It gives a natural condition he hen when every surrounding tural.
nakes perfect digestion—tones engthens the system and wards ease. Leading poultrymen en- Poultry Pan-a-ce-a. It is the ption of Dr. Hess (M.D., D.V.S.) a guaranteed egg producer, chickens grow fast and helps ls to fatten. Costs but a penny or 30 hens.
D ON A WRITTEN GUARANTEE.
lbs. 35c 5 lbs. 85c
lbs. $1.75 25 lb. pail $3.50
c. for Dr. Hess 48-page Poultry Book,
SS & CLARK, Ashland, Ohio.
nstant Louse Killer Kills Lice.
PETALUMA INCUBATOR CO.,
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esbury Ducks

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t the State Fair, San Jose and Oakland, 1906.
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for sale and Eggs in season.
ncent G. Huntley
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eeder of Buff and Black Orpingtons and Barred Plymouth Rocks.

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rizes San Jose '06, and State Fair '07
ee 1sts and special, San Jose, '07.
s, three 2nds and $50 Cup best display Petaluma '07.
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Prolific Breeders
Winner of 1st pen at Breeders' Show
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Side Poultry Yards
Barred Rock and Buff Orphington Eggs
tched to order. We have taken the ut- in procuring pure stock, also selected Hogan System". Visitors and corres- solicited.
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WINSLOW'S REDS The bird for the Farmer and Fancier.
Write for 1908 Mating list.
Red Feather Poultry Yards
Dr. C. E. Winslow, Monrovia, Cal. Send stamp for Red Standsrd.

SAN GABRIEL EGG RANCH
e Leghorn and Barred Rock Eggs for $1 per 13, $5 per 100. Won 12 ribbons eders Show on White Leghorns. Prize per 13. All hens in our breeding pens d, 2-years-old, and are great egg pro-
& Johnson, San Gabriel, Cal.
Car to Masonic Home then 2 blocks South

'S RHODE ISLAND REDS
World's best layers. Get our r. Drop a postal to
de San Bernardino, Cal.

sive away from commercial centers. It should be given the preference wherever available, although very fair results can be obtained with limewater. One lot preserved in June in nve per cent water glass solution was still in very good condition the following March.

It is absolutely essential that eggs for preserving be perfectly fresh. They should be preserved within twenty-four to thirty-six hours after being laid. It is not safe to preserve eggs whose history is not known, such as those obtained from dealers. By following one of these formulas a fall and winter supply of cheap eggs may be had which is fully as serviceable for most purposes as high priced fresh eggs, and which will not have that peculiar stale taste so charteristic of shipped cold-storage eggs.

AROUND THE YARDS.

Experience is the best teacher.

* * *

Don't make the same mistake twice.

* * *

Plan well before you execute.

* * *

If you copy, be sure you copy after the successful.

* * *

An easy way to lay the foundation for success is to let your hens do the laying.

* * *

There is many an honest man who eats poached eggs for breakfast.

* * *

One progressive poultry suplyman advertises a lice killer that will exterminate all bugs, even the humbug.

* * *

Hired Girl: "How long do you want the eggs boiled?"

Mrs. Newwife: "I don't know, Bridget; but I should think until tender, at least."

GETTING GOOD PROFIT FROM POULTRY.

One great secret of getting a good profit from poultry, as well as cows, is the weeding out of the unprofitable ones. A good many recommend the trap nest. The trap nest to the average farmer is about as practicable as would be a line of trolley cars to carry him around his farm. In order to trap-nest a flock of hens an attendant must be on hand to release the hen after she has laid and give her credit on the books. A farmer cannot do this. A set of trap nests is all right in its place, and that place is where hens are kept in sufficient numbers so an attendant is continually about the hen houses up to 3 or 4 o'clock in the afternoon. How then are we to judge which are the layers and which the drones? My method is to judge by their looks and actions.

There is as much difference in the shape, disposition and appearance of individual hens as there is in individual cows or horses. This difference in characteristics can better be accurately judged in pure bred flocks than in flocks of mongrels, for with the former, when you have studied the breed you have adopted, as everyone should, until you have the shape imaged in your head and can recognize it anywhere, you have more uniform individuals to judge; while with mongrels and crosses, after the first cross especially, you never know what you are going to get either in shape, color, eyes, comb or general charcateristics.

A hen that is soonest off the roost in the morning and the last to retire at night is what we call a hustler. She is looking for something to eat

Feed the Chicks and Kill the Gophers
West Coast Chick Feed
A full, rightly balanced ration for the little ones, to be fed dry. All pure feed, no filler, no waste. The biggest seller because the best made. Keeps them growing and healthy. For sale by many dealers; if not by yours send direct to us.
Bille's Gopher Poison
is most attractive to gophers, squirrels, etc., but sure death. Endorsed by Agricultural Colleges and Experiment Stations. Has had the greatest success for years in the Middle West, and also here in California last season. Circular with many testimonials and Affidavit of 201 killed in one day. If your dealer hasn't it, send $2.50 for two bottles, (not less than two) express prepaid by us. Money refunded if not as represented—so printed on the bottle.
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5,000 MEN OUT OF WORK
Can feed a few hens on the scraps from the table and have eggs for the family every day in the year—but
Little Chicks should be fed on Excelsior Chick Food
prepared from clean, sound grains, seeds, beef scraps and charcoal in proportions to make a well balanced ration and produce strong, healthy chicks and keep them continually growing. For sale by all dealers and grocers. Take no other.
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LOS ANGELES INCUBATORS
RELIEVE POULTRYMEN OF HATCHING WORRY.
PEERLESS CHICK FEED
RAISES EVERY CHICK EVERY TIME

PEERLESS EGG FOOD
PRODUCES PLENTY OF EGGS ALL THE TIME
Lee's Carbolic Sheep Dip
IS GUARANTEED.
Henry Albers Co., 534 So. Main Los Angeles

Starbuck's Barred Plymouth Rocks
We trap nest our hens. Why set from poor layers? Bird laying qualities are inherited the same as any other. This year we have discarded all old matings and have gone to the next generation. Cocks have 9 generations of 200 egg mothers. Hens all from 200 egg mothers and from cock with 6 generations of 200 egg mothers, and are laying fine. We have divided into pens according to the way they are showing up in six months laying. $2.50 for 13 eggs from first pen. $1.00 from 2nd. until they have time to make longer records. (Except from our one best, not for sale. We claim the world's Barred Rock, 6 months laying record for this one.) Do you wish to hear about our prize winning Buff Orpingtons and Silver Wyandottes? We have something to crow about. No Sunday sales or visitors. Wm. Starbuck & Son, Fullerton

White Wyandottes Exclusively
Our strain have won in strong competition on the Pacific Coast
Day old Chicks, Incubator lots our Specialty, $15 per 100
Booking must be made in advance. Stock and Eggs For Sale. Send for our new Catalogue
GEORGE W GRACE & SON. RURAL 21 CAPITOL AVE. BOX 98, SAN JOSE, CAL.

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A Balanced ration made of pure grains (cracked), Seeds, Beef Scrap Charcoal. No grit no waste or bowel trouble in feeding this feed.
Will send freight prepaid to any address for $3.50 per 100 lbs. Arizona points 50c extra.
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Trap-Nested White Wyandottes
That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribons, all at Los Angeles County Poultry Ass'n Show, Dec. 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah.
Mission View Poultry Ranch Mrs. C. D. Hubbard San Fernando, Cal.

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From Carefully selected purebred stock of

White Minorcas **White Leghorns**
Buff Orpingtons **Aylesbury Ducks**

For full particulars and prices on eggs and incubator chicks apply to

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Petaluma, Cal.

Mammoth Bronze Turkeys---S. C. White Leghorns

From our large, vigorous White Leghorns, the largest eggs produced by any Leghorn breeder in the West. $1.50 for 15, $7.00 for 100 and $60 for 1000.

To make room for young stock we must dispose of a large number of this year's breeding birds. They are two years old and the pick of our flock and must be sold by May 1st. Write us your needs. The price is right.

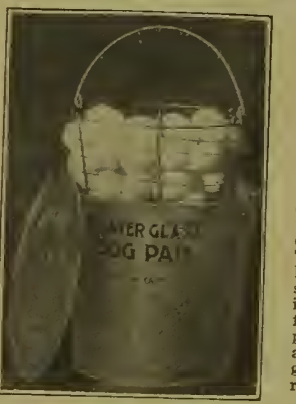
STUHR-WILLIAMSON POULTRY COMPANY
378 Bandini Ave. **Home Phone 1490** **Riverside, Cal.**

NOTICE OF DISSOLUTION OF PARTNERSHIP.

Notice is hereby given that the co-partnership heretofore existing between J. J. Steadman and H. A. Perkins under the firm name of Cultivator Publishing Co., is dissolved by mutual consent, J. J. Steadman retiring. The business will be continued under the same name, Cultivator Publishing Co., which assume all liabilities and collect all outstanding accounts. Signed this 8th day of April, 1906, at Los Angeles, Cal.

J. J. Steadman.
H. A. Perkins.

World Famed Water Glass for Egg Preserving



Water glass for this purpose must be pure in quality and the correct density. This glass has been specially imported for this purpose and we guarantee results.

25 cent tins will preserve 150 eggs and dollar tins 1200 eggs. Full particulars post free.

Special egg preserving buckets with wire cage, $1.00. Larger sizes, prices on application.

Manager Water Glass Department
707 So. Spring St., Los Angeles

SULLIVAN'S FAMOUS COMMONWEALTH STRAIN

Eggs balance of season half price. Breeding stock at the price of market birds. This is your chance. Write us about it. **Mr. & Mrs. W. S. Sullivan**
Agnew, Santa Clara Co., Cal.

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Chicks and eggs. All kinds
Send for price list. We ship everywhere.

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Five dozen well-bred, Great Layers, White Minorca Hens. One-year-old. $15.00 per dozen. Five males $2.50 each.

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Sunnyside, Cal.

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Humphrey Strain

I have for sale some extra choice White Rock Cockerels and Pullets. Will sell single, pairs, or trios. Prices from $2.50 up. Also a few Barred Pullets, improved strain.

E. GUTTING, Los Angeles, Cal.
134 West Slauson Ave.

S. C. Rhode Island Reds Five pens headed by Eastern prize winners. Prices reduced. Standard eggs, $1; select prize, $1.50. Stock, $1 up. Our yards are carefully mated to successfully produce the "True Reds" of exhibition quality. Address **WHITE'S TRUE RED YARDS, Dolgeville, Cal.**

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All the leading varieties of chicks. Pure bred White Leghorns a specialty.

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White Wyandottes Exclusively

Good, White, Typical Birds. Stock and Eggs For Sale.
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WHITE AND BUFF WYANDOTTES

And Golden Sebright Bantams, prize winners
Stock and Eggs in season
M. E. Dillingham, Box 67 San Gabriel, Cal

from which to produce an egg. A hen to produce eggs in large quantities must have good capacity to take food and good digestive organs to digest and assimilate the food eaten. You naturally, therefore, look for a long keel, apparently lengthened by a full breast filled out square with the keel by a good full crop. In such a hen the abdomen, while not bagging down much, will be well distended, showing egg capacity. You seldom see a hen, narrow between the legs and abdominal lines straight back from the legs, giving her a squeezed-in appearance from behind, that is a heavy producer. She is like a dairy cow built on beef lines. I prefer a hen with legs well apart, full breasted, with well developed abdomen. This indicates stamina and vigor. If she has a bright eye, red healthy looking comb and head adjuncts, and has that alert carriage, coupled with the other characteristics mentioned, she is pretty surely a profitable hen, and watching will prove her the bird for the breeding pen to increase your egg production, and at the same time a carcass built on these lines is capable of supplying a trade for fancy table food.—New England Farmer.

A FINE IRRIGATION GATE.

The pump head which has been so successful in many deep wells of California and whose popularity has greatly increased, is not the only product of the Pomona Manufacturing Company. That concern is now putting out a water and money saver in the Pomona Patent Pressure gate for irrigation purposes. These gates are made similar to the ordinary slide gates with the improvement that permits of locking so as to deliver a certain quantity of water. The locking device also aids in making a perfectly water tight joint when all the water is cut off.

Irrigators should look into it. Write Pomona Mfg. Co., Pomona for particulars.

TURKEYS.

It is not uncommon to receive numerous letters from farmers all over the country at this time of the year stating they are unable to obtain eggs early in the spring, and in consequence, wish to place their orders early for breeding stock. At this writing we are receiving orders for breeding turkeys for future delivery, indicating the demand for turkeys during the season of 1907-08 will surpass that of 1906-07. Hence, no time should be wasted in trying to raise every poult incubated this year.

No Use Trying.

Now and then you will run across the individual that says: "It is impossible to raise turkeys and there is no use in trying." Put him down as a calamity howler, for that is what such fellows are, pure and simple, and you will always find them in every avenue or profession. It is the optimistic class that mets with success and not the pessimistic. Those that live in rural districts are the ones that the Allwise Creator seems to smile upon when it comes to growing turkeys. It is useless for the city people to try turkey culture, as turkeys do not thrive in confinement. Therefore, only those that can afford unlimited range can launch out and reap a rich harvest from the proceeds of his turkey crop. The farmer is responsible for a shortage in the turkey supply. No other class of people can be responsible for the shortage in the turkey crop. The farmers must bear this "blunt," hence the individual that is blessed with country life and turkeys is simply in "clover," for he is well aware the demand is far greater than the supply, which, beyond a doubt, encourages him to use every effort to mature every turkey incubated for the short supply of this great commodity insures remunerative prices. Consequently there is no branch of farming, that affords greater opportunities for easy money making than turkey farming. We well realize that if it were possible to raise one thousand turkeys of the highest type, we would possess a good fortune, but to raise turkeys in thousand lots is next to an impossibility, at least it is so with us, and we have the impression it is likewise true with our brother poultrymen.

Learn Mistakes.

Yet they can be successfully raised in limited numbers on unlimited range. The subject of turkey culture should be studied from A to Z, then the masses of amateurs would soon learn their greatest mistakes are made in trying to raise too great a number on too limited range. It must be understood that turkeys must be raised in limited numbers and on unlimited range. When we conform to these rules we will raise more turkeys of larger size and finer in quality. Judicious management of turkeys tells the tale at the end of the season.

The month of June is a very trying month on turkeys, especially if the lice are not kept at bay. Turkeys are benefited by roaming the fields like any other domestic fowls raised on the farm. If you handicapped the turkey in the respect of roaming the fields for worms and bugs, your efforts to mature them are wrought asunder.

Hundreds of turkeys that are half-grown are lost by allowing them to become thoroughly drenched in a cold rain. Great losses may be avoided by going after the turkeys at the appearance of approaching storms. Turkeys at this age should be fed on the soundest grains possible to
know of a farmer that al
the markets and inquire f
grains for his fowls for r
son but that he can c
cheaper, supposing he is b
gain, but the facts are
dearly for his foods, be
variably has great mort
broods, due to the stale
them. If there is anythin
quires sound, pure food,
feathered tribe.

Pure and Fresh.

The naturally wild t
healthy and rugged, sim
they fed upon the purest
ture has in store. This
sufficient to warrant us the
feeding our domestic turke
but the purest, soundest
has been but a few weeks
writer called at the meat
buy meat for the fowls. W
fered stale meat but would
it even at a greatly redu
Consequently, we were call
but it matters not to us w
received surly names or
money is a standard beare
buy what we want, if it
tained.

Pure food is the secret
in growing domestic t
your turkeys have ample ra
the summer months they w
but one feeding and that
Too much feed will everlas
them even if your food is
skillful hands can provide
Allow the poults to go upon t
fence to roost as soon as th
enough to fly up to the perc
will thrive much better r
in the open than in close
coops. During the warm
provide a liberal supply o
charcoal close to the feed
their option on their return
day's ramble. This will aid
and prevent serious trouble
largement of the liver, so co
young, growing turkeys.—
Inland Poultry Journal.

CARE OF HOUSES.

The houses should be kept
lously clean. Many adopt th
placing the houses on runners
usually have no floor and the
simply means that they ar
from place to place. This
done when fowls are kept in
chard. In rainy weather t
two main objections to this
that the ground gets damp
houses are difficult to move

In stationary houses the
be either wooden (matched
best,) cement, gravel or c
In the case of the first two
should be sprinkled with
and should be cleaned at le
week. Various methods ar
for cleaning. A door could
in the side of the hen house
level of the floor to perm
troduction of a scraper an
easy cleaning.

IT'S PENNY WI

Policy to set out a goo
ing good money, and then
burn the bark or the rabbi
when for $1 an acre you can
Tree Protectors that are pr
indestructible. Write for free
of the wrap. Yucca Manufactu
Company, 1380 Willow street, Los
geles.

Escondido proposes to have a S
polytechnic school similar to the
al San Luis Obispo providing the
induce the Legislature to so act.

e Stock and Dairy

A DRY YEAR.

all day the rain clouds
close to the earth yet
do not break into the
pour that would be most
For days the earth has
e refreshed until the days
e weeks. Then irrigation
vineyards and orchards.
in would not come. Yes-
a last resort the mowers
the hay field; whenever
st hay cutting not bring a
ver or two? Surely the
ownpour will come now.
an that met a congregation
t of the church on a week
d and addressed a neighbor,
Maloney, what for are yees
mass today?" "Och, sure
Mrs. Maloney. "We be a
r rain." Then rebukingly
Sure and where be you um-
roobers; instead you have
est." "Yes, we are trying
ge it to rain by making
conditions."
e of hay is jumping, two
tra a ton in two days for
Even if a heavy down-
ld come the crop of grain
e lessened greatly. At pres-
en in the foothills are feed-
serve hay from last year to
e to hold them over until
in once more.
re many small crops that
wn to feed cows and horses.
s ago we went over the re-
nerits of silage, sorghum,
and beets. Now there are
nd beans well worth inves-
s hay making plants. Corn,
and sweet potatoes have
es. The sweet potato vine
able as the straw from the
for stock hay. The man
silo can usually harvest
een stuff from the borders
ghboring orchards and vine-
ld to the corn in the silo.
few farmers who will not
allow you to gather up the
th on their waste land to
it, is of value to most of

coast and where there is ir-
water, kale affords excellent
cow feeding In the warmer
should be started right away
an early start before the
s warmer. While it grows
t weather it will not make
start as though it had
good head way while the
were cool Plant a seed
ng the seed in drills and
ting it to the bottom of a
utting the plants every three
the furrows three feet apart.
to hold moisture The kale
a heavy growth in the fall;
mes of great value for mak-
for cows.

/.

y bean and the blackeyed
valuable to harvest while
e plant is green and cured
At first the cows do not
taste. but soon become very
t. Ten pounds a day will
ses that are not in hard
fair condition, when fed with
ghage to increase the bulk.
should be inoculated with
cteria to produce a full crop.
the garden where the beans
wn in previous years, will
erfectly to inoculate the soil.

Take enough soil three or four inches from the surface put it into a barrel and fill up with water; turn in the beans and stir them around carefully, then spread out on a barn floor or on wooden trays to dry. Plant the beans about three inches deep and cultivate the same as a corn crop. These beans will make a balanced ration if added to the corn as it is put into the silo.

Roughage Necessary.

Rough food seems to be needed by all our farm fed stock. We have had a repeated experience this winter. We bought some rough hay for outside animals; it was mixed and very coarse stuff. The foreman ran short of the regular hay and concluded to feed some of this coarse hay rather than stop to haul up the good hay. The horses began to pick up and look sleek, the same as they do on sorghum hay. We have had this experience several times, and believe that rolled barley is too concentrated and the need of rough food is very great. The wheat, oat and barley hay is dry in the stalks and the stock eat the heads or grain portion rather than the whole of it clean. This wild hay is full of annual grasses and of growth that give them appetite. The work stock did so well that for the last two weeks the carriage horses have been fed on the rough hay. They are responding by becoming overfat without an increase of grain or less driving. In the stomach of the horse no doubt the coarse hay is like fruit and asparagus or lettuce, to us, of lower nutritive value than the heavy cereals. yet much more liked by us, as it makes us more buoyant and helps the body to throw off its wastes more easily.

A Balanced Ration.

The best formula for feeding cows for profit seems to be about as follows. A hundred weight is made up as follows: 60 pounds of middlings; 30 pounds of beans; 10 pounds of oil cake. The middlings may be replaced with ground corn entirely. The oil cake meal may be omitted, but I like it as adding concentrated food in a quick way. The mixture as first given is excellent for the brood mares for the first six weeks after foaling, then drop out the middlings by degrees and replace with rolled barley; let the brand follow until the mare is five months from foaling and is on her regular feed. Then this mixture put dry in a manger can hardly be surpassed for the first feeding of the young colts. In feeding oil cake I should at first only put in five pounds instead of ten, as it may prove too laxitive when the animal is not accustomed to eating it.

The cows may not at first eat readily of the mixture of oil cake, but they become very fond of it in time; it is really an acquired taste like that for olives or bananas. The addition of fifty pounds of bran with a little salt will soon accustom them to the oil meal taste. At present with a grass run we are feeding the cows two pounds a day of this mixture. We will gradually increase until they receive a quart dry measure at each milking time. The price today of middlings is $31.00 a ton; bran $30.00 and oil cake 3 and one-half cents a pound.. Big figures that make one sigh for a full silo to reduce the expense. When the ration is mixed it costs about $1.75 a hundred.

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SEPARATORS
MAKE THE
BEST BUTTER

The one purpose of every thinking buyer of a cream separator is the making of the most and best cream possible, whether for home buttermaking, creamery patronage, or any other use to which cream is put.

It is possible to "claim" almost everything for the various makes of cream separators, but the one indisputable fact that would-be competitors do not even attempt to get around is the unquestionable superiority of the DE LAVAL machines in the making of the best butter.

Year after year, dating back to the invention of the "ALPHA-DISC" system of DE LAVAL bowl construction, butter made by users of DE LAVAL machines has scored highest and won all higher awards in every large and thoroughly representative butter contest throughout the world.

Beginning with the first great annual contest of the NATIONAL BUTTERMAKERS' ASSOCIATION in 1892 and ending with the 1908 contest at Minneapolis, March 11th to 13th, not only the HIGHEST but every anywhere near high award has been made to users of DE LAVAL separators and more than nine-tenths of all exhibits scoring above 90 per cent. in quality have been DE LAVAL made.

THE ROLL OF HONOR
ALL DE LAVAL USERS

The First Prize winners and their scores at every convention of the National Buttermakers' Association since its organization in 1892 have been as follows:

1892 Madison, Wis., Louis Brahe, Washington, Iowa..........Score 98.
1893 Dubuque, Iowa, C. W. Smith, Colvin's Park, Ill..........Score 97.
1895 Rockford, Ill., F. C. Oltrogge, Tripoli, Iowa............Score 98.
1896 Cedar Rapids, Iowa, Thomas Milton, St. Paul, Minn....Score 97.82
1897 Owatonna, Minn., H. N. Miller, Randall, Iowa.........Score 98.5
1898 Topeka, Kan., Samuel Haugdahl, New Sweden, Minn..Score 98.
1899 Sioux Falls, So. Dakota, A. W. McCall, Creston, Iowa..Score 97.
1900 Lincoln, Neb., H. T. Sondergaard, Litchfield, Minn.........Score 98.
1901 St. Paul, Minn., E. O. Quenvold, Owatonna, Minn..........Score 97.
1902 E. L. Duxbury, Green Bay, Wis. ....Score 98.5.
1904 St. Louis, Mo., L. S. Taylor, Glenville, Minn..............Score 98.5.
1906 Chicago, Ill., A. Carlson, Rush City, Minn................Score 97.
1907 Chicago, Ill., A. Lindblad, North Branch, Minn........Score 97.5
1908 J. C. Post, Hector, Minn..................................Score 98.
(There were no conventions in 1894, 1903 and 1905.)

In the great annual contest just held 504 of the best buttermakers in the United States competed, with first, second and third, and all important awards being made to users of DE LAVAL machines.

At each of the two big National Dairy Shows held in Chicago in 1906 and 1907 DE LAVAL butter made a CLEAN SWEEP of all highest prizes, and the general average of all the DE LAVAL made entries was conspicuously higher than the general average of all entries using other makes of separators.

Going further back, DE LAVAL made butter received the GRAND PRIZE at the ST. LOUIS WORLD'S FAIR in 1904, and as well at the PARIS WORLD'S EXPOSITION in 1900.

In the hundreds of important State and country contests the world over for twenty years the superiority of the DE LAVAL separator in the making of fine butter has been conclusively proven.

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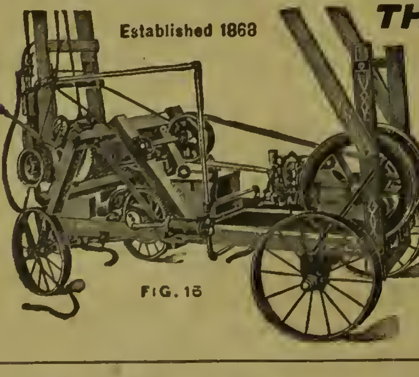

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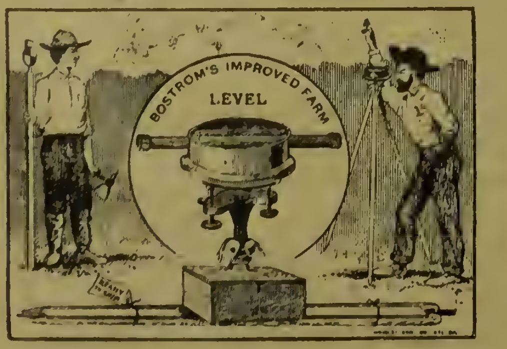

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Coast Agents. Send for Circular.

At this price it is not an unreasonable cost for feed, as butter fat is very high at present. About five cents a day per head will grain-feed an average herd sufficiently to be profitable, but when we go beyond that mark then we must follow the cows closely with the Babcock test to see if it is a paying proceeding.

I was reading the other day something like this about two herds of cows that were tested by one of the cow-testing associations. In one herd the best cow yielded 450 pounds while in the second herd the best cow only made 114 pounds. If this butter fat sold for 25 cents a pound the best cow earned $112.00, while the poorer one only earned $35.00. The one cow made $87.00 more in a year than the other one. Suppose these cows cost the usual California price of milking and feeding the one cow was a loser while the other paid a living profit. This is, of course, an extreme case, but it is not to be considered that there are not cows that make only 188 pounds of butter in a year. The extreme consists in that it was the best the man had. It is to be hoped he had no more than one; ten like that would have landed him in the poorhouse.—M. E. Sherman.

HOW TO PREVENT RETENTION OF AFTERBIRTH.

There are certain periods in which special care of the cow should be considered. The pregnant cow should have exercise, and as regards both exercise and food, nothing is better than nature's care, such as she gets while at pasture. She should not be given ice cold water to drink, or be exposed to violent excitement, such as being chased by dogs, riding or being ridden by cows in heat, driven through narrow gateways, compelled to jump ditches and fences, hooked by other cattle, driven on icy or slippery ground, or being kicked and pounded by vicious attendants.

The diet should be good, clean wholesome feed, such as will produce the greatest amount of strength and yield of milk both for the profit of the owner, and the nourishment of the foetus.

Much more is expected from the cow than any other domestic animal. In the breeding cow the value of the calf is the important consideration, and in the dairy cow the yield of milk. In either case the system is at all times under a continuous drain, furnishing blood, muscle, bone and sinews for the foetus, at the same time producing milk either for another calf by her side or for the profit of the owner.

For this reason the cow should be given a special amount of care and attention. She is the surest and most reliable of all farm profit producers, the one animal the owner can bank upon to always produce her share of income, providing she is given a reasonable amount of care, which consists of pure water, good, clean, wholesome food and such ingredients as will regulate and control the nervous system and stimulate the sluggish organs, of which a pregnant cow is usually the possessor. The sluggish organs are usually one of the greatest causes of the retention of the afterbirth, at the same time being a cause of constipation, which is only a symptom of the former.

To prevent the conditions which cause a cow to retain her afterbirth, it is necessary to give such ingredients with the food as will have an affinity for the genital organs, and

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The Uppers are made of the
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e service if you treat
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etter results than others do.
or prices, testimonials and our
oklet on Anthrax and Blackleg
e Cutter Laboratory
Berkeley, California

For Sale

Golden St. Lambert No.79239 A.J.C.C.

iful young bull combining the best
ad and St. Lambert blood. Win-
first prizes in 1907. Fit to head
l.

Geo. A. Smith, Corcoran, Cal.

g Jersey Stock Farm Company
he very best strains of blood fresh
and of Jersey a specialty.
y Stock Farm Co. Heber, Imperial Co., Cal

will enable them to perform each and every function that nature demands them to perform at the trying and critical period of calving, thereby enabling the cow to deliver herself without an unreasonable amount of exertion, and at a reasonable time after doing so to expel the afterbirth without mechanical aid.

So much is expected of the pregnant cow, and the drain upon her system is so great that she should have proper feed and such ingredients added to it as go to make up a perfect tonic for a pregnant animal.

It is impossible to care for a cow as nature would care for her. To a certain extent she is deprived of proper laxative food and water when desired, exercise and sunlight and such vegetable matter as nature requires to keep her genital organs in a strong, healthy condition. Being deprived of these, it is necessary that she be furnished with something to take their place, thus enabling the genital organs to perform each and every function required, such as contracting upon the mature calf, causing it to be born at the proper time, and expelling the afterbirth within a few hours afterwards, enabling the cow to come in heat at regular intervals, and to get with calf when bred. —By Dr. David Roberts, Wisconsin State Veterinarian.

STOCK IMPROVEMENT IN KENTUCKY.

A new railroad was run through a populous farming district of Kentucky. It appeared to act as a magnet to all the rickety live stock of the neighborhood; numerous creatures were killed; and then sprang up the crop of claims against the railway company. The district had not been noted for its pure-bred stock, but every animal killed, whether a pig, or calf or raw-boned nag, was represented to be of finest Kentucky breeding and worth sweepstake prices.

"By Jove!" shouted a lawyer as he came to the end of a long list of claims. "I've found the way to improve Kentucky live stock. Cross it with a locomotive!"

THE ROOF.

A little puddle on the floor inside the building does not necessarily mean a leak directly overhead, but it does mean a leak somewhere. The most likely place for leaks is around chimneys and gables. These are the points where cement must be used freely when the roofing is laid, but even with the utmost care a stiff and heavy roofing will work itself away from the bricks and let the water in.

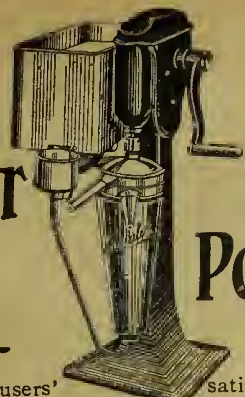
The best way to avoid such troubles is to adopt a roofing which is very pliable, as such roofing is much easier to cut and fold in the small corners.

Congo Roofing, for Instance, is both pliable and easy to handle. The natural result is that a Congo Roof is invariably tight, whereas other roofings which may be just as good in their waterproofing qualities will be frequently extremely difficult to get tight the first time owing to their stiffness and difficulty in laying same.

A Free Sample of Congo may be had by sending a postal card to the manufacturers, the United Roofing and Mfg. Co., Philadelphia, Chicago or San Francisco.

The Louisana Experiment Station reports the successful use of bisulphide of carbon for stomach worms in sheep. One drachm of the bisulphide was mixed with an ounce of raw linseed oil and that shaken up with an ounce of lime water and given as a drench.

The more months in a year a cow can be induced to give milk, the greater will be the profit in her keeping.



The Tubular Separator Leads All in Popularity

Popularity means users' satisfaction.

Satisfaction includes efficient service, easy operation, increased profits—that the Tubular does better for users than other separators.

Not what words may say makes these conditions true. What the Tubular does in the dairy is the basis and proof of our claims.

Dairy tests tell—you can make a test.

We arrange for proof, so that dairymen and dairywomen may be assured in advance of these facts; so they may know what a Tubular will do for them in their dairies.

Here are our claims of what the Tubular is and does:

Cleanest skimmer of any separator made
Easiest to Handle
Most Convenient Supply Tank
Simplest in Build
A Stranger to Repairs
Least Weight to Turn
Most Economical to Run
Most Durable in Use
Economizes Oil and
is miles ahead of any other in easy cleaning.

Many differences you can see with your eyes.

Other differences we are ready to prove.

Catalog free, telling scientific and mechanical reasons for Tubular difference from and superiority over other separators. Ask for No. 260.

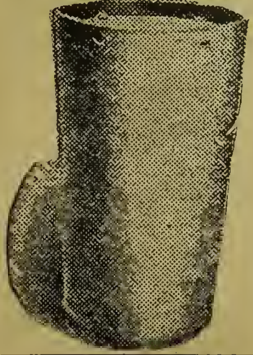
But seeing the Tubular is still better. Write and ask us to tell you about it, where you can see it, and how you can prove for yourself what Tubular Service will mean for you and for your dairy, right at home.

The Sharples Separator Co.,
WEST CHESTER, PENNA.
Toronto, Can. San Francisco, Calif. Chicago, Ill.

Buy Molasses Save Money

Your Hog Wants Corn to Fatten. It costs over a cent a pound. The Louisiana Planter says molasses is equal to corn pound for pound. Molasses costs, at a dollar and a half a barrel about ¼ cent per pound. "Save money."
Your Cow Wants Molasses. Try this balanced ration: Molasses, pulp, corn-stover, or other roughness, and "Save money."
Your Horse Wants Molasses. Put it on hay in stacking. Let it pass through the sweat. Feed it in place of grain. "Save money." Write for information and testimonials.

Los Alamitos Sugar Company
Los Alamitos, Cal.

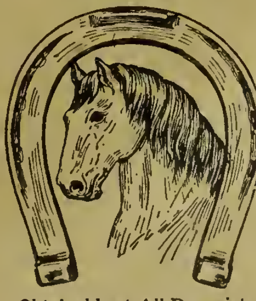


Instead of Glass Bottles
For Milk or other products of the dairy; instead of boxes for honey, etc.
Use Sterilized Paper

Non-breakable; liquid-proof; saves washing or hunting empties; customers pleased to find contents sweet and sanitary. Paper stoppers are good, paper sides and bottoms are better. Cheaper, too.

Quarts, $10 per thousand; Pints, $8; Half-Pints, $7; Quarter-Pints, $6.50
Free Samples Mailed to Any Address

Sanitary Container Co. 668 South Alameda Street
Los Angeles, California

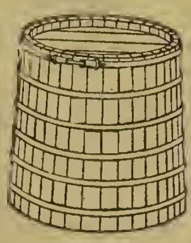


Obtainable at All Druggists
and General Dealers

Use
"Western" Condition Powders
for Horses and Cattle
The Best Tonic on Earth
Put up by 1-lb. Package, 25 cents
Western Wholesale Drug Co.
Los Angeles, Cal.

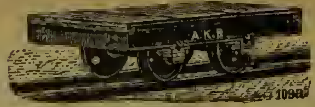
Wine Tank

Tanks Tanks
WINDELER'S PLANING MILL AND COOPERAGE
GEO. WINDELER, Prop
Water Tanks, Wine Tanks made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.
Geo. Windeler
144-154 Berry St. San Francisco, Cal.



Water Tank

Agricultural Railways



Of late years light railways have come more and more extensively into use for all industrial and agricultural purposes, not only in Europe, but in all parts of the world. The advantages of a light railway over the old fashioned methods of transport in districts where no standard gauge lines are available, are manifold, the principal one being, of course, the economy effected. A horse will haul four times as much on a light railway line as it will on a good cart road, so that the cost of animal traction on a light line amounts to only about a quarter of the cost of animal traction on a well ballasted road. If the quantities to be transported are considerable and a locomotive is substituted for animals, the cost of transport is further reduced to about one-sixteenth of the cost of animal traction on a good road.

For plantations, farms and fruit canneries, light railways have become an absolute necessity on account of the reduced cost of transport as well as on account of the short time in which the cereals can be brought to the warehouse.

Light railways are divided into permanent lines and portable lines. On most plantations where sugar or cotton are drawn, there exists a permanent line for the bulk of the cotton. This permanent line is usually built with rails weighing from twenty to twenty-eight pounds to the yard, and is carefully laid down on a level road and ballasted if possible for locomotive traction. To this main line are connected portable branch lines constructed of light rails weighing from eight to fourteen pounds to the yard, suitable for animal traction. These extensions can be easily removed and connected with the main lines at any other point by means of climbing switches, supplied by the Arthur Koppel Company.

For permanent lines, as well as for portable lines, steel sleepers are strongly recommended and they will have four to five times longer life than wooden sleepers, and are much more economical in the long run.

The Portable Railways are usually in sections of five yards, weighing from 140 to 200 pounds per frame complete, so that they can easily be removed by one or two men, thus saving labor and time.

The Arthur Koppel Company supply in connection with this straight line, curves, switches, turntables and cars, to make up a complete equipment for the **farms, orchards, sugar plantations, beet root, vineyards and orange groves.** Their world-wide experience has produced a kind of standard material which can be adapted to any use and can easily be put together and put in service just as a child would put together his toy railway.

We succeeded in getting a few cuts of installations supplied to demonstrate the utility of such portable **railway in farm yards and plantations.**

The Arthur Koppel Company has works in this country as well as in various parts of Europe, and has sales offices and stock in all civilized parts of the globe.

The portable railway, which is their main feature in their manufacture, has proved an indispensable article in all agricultural countries.

For further information address

Works At Koppel, Penn. **ARTHUR KOPPEL CO.** ***Chronicle Building San Francisco, Cal.***

Pittsburg New York Los Angeles Chicago Boston

Send for Catalogue S F 60 which gives an idea of the different ways this R. R. can be used to advantage and savings.

WOOD PIPE

Made from California Redwood or Selected Washington Douglas Fir

NATIONAL WOOD PIPE CO.

Stave Pipe 2 inches to 10 feet Diameter up to 400 feet Head

SAN FRANCISCO OFFICE, 318 MARKET ST.
LOS ANGELES OFFICE, 404 EQUITABLE BANK BUILDING
OLYMPIA, WASH. SALT LAKE CITY, UTAH

Prices, specifications, hydraulic data, and general information furnished upon request.

$300 PROFIT FROM ONE ACRE

We OWN 12,000 acres of best CALIFORNIA IRRIGATED LAND which we will sell direct in 5, 10 and 20-acre tracts. Fruits will pay $300 per acre and alfalfa $100 per acre; 1500 settlers there already. Illustrated description free, Irrigated Land Co. of California, 505 J St., Sacramento, Cal.

Balfour, Guthrie & Co.

IMPORTERS OF
THOMAS PHOSPHATE POWDER
AND
NITRATE OF SODA
SAN FRANCISCO FRESNO LOS ANGELES
WRITE FOR PAMPHLET AND PRICES

Queries and Repl

Questions to be answered in this department should be received at th one week before reply is expected. Write plainly on one side of the pa sign full name and address. Unsigned communications receive no atte Ed.

Spraying for Codling Moth.

Please inform me through your valable paper when it is best to spray for coddling moth, also the formula. —S. A., Long Beach.

The simple Paris green mixture is probably the best if you are spraying in a small way. This is the mixture of one pound of Paris green with 200 gallons of water. Mix the Paris green first in a small quantity of water, then put in the larger quantity and keep thoroughly stirred during the spraying. Spray first as the last blossoms are dropping, again two or three weeks later. A final spraying may be given just before the fruit becomes so heavy as to turn its blossom end down. If you prefer the arsenate spray refer to Cultivator of March 12th.

Soil Analysis.

Kindly inform me where I can send samples of earth to be analyzed to determine fertilizer necessary. I am raising potatoes and alfalfa in the Tia Juana Valley and have fine success. S. L., Nestor.

You may send your soil to the Agricultural College, State University, Berkeley. But first you should send for blank with instructions as to securing your sample. The analysis given to you may be of some value but it is so technical that we think as a rule the practical gardener will get but litle direct benefit. Keeping your soil in the best condition mechanically and chemically is probably the best advice to be given.

Egg Tomatoes.

Is there a market in Los Angeles for egg tomatoes; that is, the small yellow ones. They make excellent sauce, also marmalade.—F. W. P., Watts.

We do not think there will be any great demand for those small tomatoes, but possibly small lots might be disposed of. Their not being known on the market would make it hard to dispose of them there, but on the wagon in house to house sale it is possible they might sell well.

Date Palm Seed.

Kindly tell me the best way to plant the seed of a date palm.—J. J. M., Laton.

If by this you mean the ordinary Canariensis for ornamental purposes you will find the propagation extremely easy if the seed is planted in
ie open and given as goc
ou would the ordinary ga
If you mean the date palm
luces the date of commerc
ou would have only failur
effort, as they are reprodu
suckers. They will not cor
parent from the seed.

Silos and Ensilage.

I find many useful hint
Question page, and should li
to give me some advice abou
What should be the dimen
silo for fifteen to twenty c
is it built? Which is the
nomical to feed, alfalfa e
pasture it? When a si
empty can it be refilled w
bad effect on what remains
tom? This is a good dair
with plenty of alfalfa, but I
seen any silos here. D.
moore.

You will find several
silo construction in Cultiva
July and August. They we
by Mrs. Sherman and of c
tirely too long for repetition
If you wish to get greate
from alfalfa, cut and feed ra
pasture. We believe Mrs.
wrote some time ago that
filled partially empty silos
good results with that part w
kept over. This will be a v
roots, soiling crops, pum
will be a valuable addition
ration.

Calves Die.

My calves die in a peculia
About a half hour after feed
milk they bloat and struggle
down, then die. One friend
they strangled. W. H., Pal

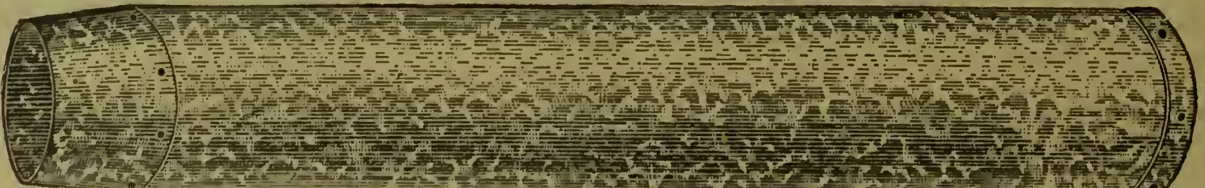
Examine one calf by cutt
I should rather suspect l
than that calves would str
milk. If it is merely comm
ing, give them the milk warm
of it, adding to it a rennet ta
tablespoonful to each gallon
If they are on all skim mi
little bran tea or gruel ma
ering the bran with boiling w
giving a tablespoonful to e
The rennet can be boug
drug store. Ask for a ten-c
age of junket tablets, dissolv
warm water and add to the
just at feeding time, as the
dle the milk.—M. E. S.

Swollen Joints.

Will you kindly tell me
quiry department of the
what ails my heifer? About
before freshening she com
swell in hock joints, and
months she has gradually s
til now her hocks are ab
times their normal size.
about two and one-half g
per day and has held ste
milk, though she is gettin
which I attribute to her d
to move about after feed
absolutely necessary. She
be perfectly healthy and
enough except after lying d
some time, when she has diff
rising. J. D. W.

This is rather a serious ca
first thing to do would be to
animal off completely. Then
with tuberculin to see if sl

For Mehring Foot-Power Millig
chines see O. J. Weber Co.,
Los Angeles St., Los Angeles, C



AMERICAN SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **Irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties. We make Riveted Water Pipe** in lengths of **ten feet** from **single sheets.** Let us **prove** to you that **we make Pipe** and **Tanks right.** WRITE FOR CATALOGUE.

AMERICAN STEEL PIPE & TANK COMPANY

FORMERLY TALLERDAY MANUFACTURING COMPANY

636-7 Pacific Electric Building Los Angeles, Cal.

ıen lf she passes all right,
up on bran and give her
green food that she can eat
ıoving about. The trouble
be in the way she carried
The circulation was inter-
ı in some way. These cases
s best tested for tuberculosis
sion may be of that nature.
animal had best be put
ut of existence.—M. E. S.

---

it.

u please tell me what this is
ɔple tree and also on the lo-
and what remedy is there for
ayed in December with Bor-
ıe and sulphur spray; tried
, but all to no avail. Joseph
isalia.

are infested with aphis or
se, which is easily killed with
emulsion or by spraying with
de by steeping tobacco stems
The logan vines are badly
with "rust." It is not so
ıtrolled as the aphis, and the
v affected cannot be reached
pray. The Bordeaux before
ıt should partially prevent its
If you have a large number
and but very few affected we
ırn to prevent its spread.

---

light.

ıclosing a sprig from my po-
s What is causing them to
dry? Seems to be on all my
ose, but not on the Red Rose
W. Sanger.

blight, spray before it ap-
at once on first appearance,
deaux. Your other queries
nswered by Dr. Whittlesy and
Fall later.

-Split Pits.

sending you a leaf from my
ree. Last year they had the
l spider on them, but did not
y many of these bunches on
es. Does the spider cause the
Can you tell me what causes
tones to split? Mrs. John
iverside.

rouble with walnut leaves is
ich is called "erinose." This
d by a very small insect or
ich lives in colonies on the
de of the leaves, causing the
l development which is seen
enclosed specimens. This is
ll a serious matter and never
ıny appreciable injury to the
o treatment is necessary. A
effect is often seen on vine

ɔther question as to the spli-
ɔeach stones is one upon which
no definite information, the
f this trouble being entirely
n. It is due apparently to a
gical condition of the tree
to any fungus or parasite.
g the trees with Bordeaux
will have no effect. Ralph E.
Pathological Institute, Whit-

Young Tree.

ıdvisable to allow the fruit to
on small peach trees, in their
year? The trees were set out
ago this spring and they have
to a dozen peaches on them.
should be taken off, when
t be done? The outlook now is
ry season, and I thought, by
g the trees of their fruit, the
ı would be thrown into the tree
v would take less moisure from
ınd. F. S. Price.

urely would not allow many
to remain. If you have no
or irrigation, think we would
all at once. If plenty of water,
occasional one for the satisfaction of knowing that the tree is true to name will do no harm.

Dry Her Off.

I have a cow whose milk has lately become stringy and very bitter to the taste. Have been staking her on green feed during the day and giving dry feed at night. She is within about a month of calving time. Can you tell me what is the matter with her? H. E. S.

Dry her off. The milk is not fit to use. If too late to dry her off milk her, but wait until she is fresh before using the milk.

Potting Palms.

How may I pot palms that have come up from the roots of the mother palm and when plucked off have no roots of their own? J. W. D.

The Phoenix Palm, the common date palm and the canariensis are readily propagated by putting the suckers into a pot filled with sand, standing the pot in a saucer of water and putting it into a sheltered, warm spot. Cut half of the leaves of the sucker, that is, cut half of each leaf off entirely. The Chamaerops humilis also suckers freely and a small proportion of these will root if treated in the same way.

Mildewed Roses.

I inclose you samples of the foliage from rose bushes. The bushes are standing in a large hen yard. Last year they were very healthy and bloomed finely. The yard is kept very clean. J. C., Merced.

This is a case of badly mildewed bushes. Sulphur is the best remedy. Scatter about and over the vines. This will aid in keeping other growth from mildewing. Or, if you will turn to the Cultivator of March 12, page 397, you will find the potassium sulphide spray, which is excellent for this trouble.

Koumiss.

Please give directions for koumiss or "milk beer." Mrs. E. R. S., Santa Rosa.

See Mrs. Sherman's article, which will be in next week's paper.

Aphis.

A subscriber sends twig of orange tree covered with aphis or plant lice. Spary with kerosene emulsion.

CULTURE OF GOOBERS.

Continued from page 475.

for the field pickers, and four well filled cans make a sackful of nuts. Do not allow the pickers to gather the small and immature nuts from the vines, as that will hurt the grade of the whole crop for marketing.

Hay.

The vines with the cull nuts remaining make most excellent feed for hogs and cattle, but I do not advise the use for feeding horses, as it will sometimes cause the formation of a "hair ball" in the horse's stomach, which will in turn cause compaction of the bowels, which will always be fatal to the horse.

The cow and horse are differently constituted, and there is no better feed to raise a band of hogs or calves on than the properly cured peanut hay with the cull nuts remaining on the vine.

The hay should be hauled in the morning, when the leaves will not fall badly.

No dairy can long stand half milk, half water.

ax Cure, Milk Fever Outfits. See
eber Co., 555-557 S. Los Angeles
.os Angeles.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

EGGS FOR HATCHING.

ORPINGTONS, BUFF AND BLACK. THE winners of the lion's share of honors at the Los Angeles County and Breeders' shows this year. The birds that win in the keenest competition and lay eggs all the year. Birds that pay as they go. Handsome catalogue free. Guaranteed fertile eggs in any quantity. Proven breeding stock very reasonable. Write today. Orpington Reservation. ROSS & TATE, Altadena, Cal.

EGGS FROM MY PRIZE WINNING BARred Rocks; won all firsts, all seconds but one, and all specials on Barred Rocks at L. A. C. P. A. Show, 1907. Eggs from best pens, $3 per 15; $12.50 per 100. Stock for sale. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

FOR SALE — WHITE WYANDOTTE EGGS for hatching from 2 extra choice pens; I have been breeding these birds for the past 5 years for the best possible results; eggs, $1.50 and $2.50 per setting. A. W. HUSKINS, 713 Waterloo St., Los Angeles. Phone, Temple 948.

BARRED ROCKS A SPECIALTY—I CAN supply eggs from strong, vigorous birds barred to the skin and correctly mated for $1.50 and $2.50 per 15. Incubator lots a matter of correspondence. ENOCH CREWS, Darwin and Broadway Sts., E. Santa Cruz, Cal.

ALTADENA ORPINGTON FARM—MATSON Hayden, Box 1001, Pasadena. Golden Buffs exclusively. Settings $10.00, $5.00 and $3.00. Five winnings at show Los Angeles 1908. Satisfaction guaranteed.

HART'S BRONZE TURKEYS ARE KNOWN the world over; are unexcelled for size, hardiness, beauty of plumage and early maturity. Eggs for hatching $5.00 setting, $35.00 per 100. ED. HART, Clements, Cal.

BUFF ORPINGTON AND WHITE Rocks, $2.00 per sitting, $6.00 per 100. Indian Runner ducks, $1.00 per 12, $5.00 per 100. First class stock. WYATT & WOLLITZ, Fern Park Poultry Ranch, Corona, Cal.

$5.00 PER SETTING FROM WHITE CRESTed Polish Bantams, from imported stock. Most beautiful Bantams in the world. No stock for sale this year. R. D. PECK, 367 S. Boylston, Los Angeles, Cal.

FOR SALE—LINE BRED WHITE ROCK cockerels from Mrs. Basley's original strain. Write for prices. Also eggs for sitting $2.50 per 15. MRS. KATE B. JOHNS, Compton, Cal.

EXCLUSIVE—EGGS FROM PRIZE WINning stock; Single comb Rhode Island Reds, $1.50 per setting. See my birds. H. P. SHEETS, Pomona, Cal.

EGGS FROM THE SECOND PRIZE PEN of White Rocks at Breeders' Show, $1.50 per 15; $2.50 per 30. J. W. WHITNEY, R. D. No 2, Long Beach, Cal.

WHITE MINORCAS, R. I. REDS, BUFF Orpingtons. Splendid stock, bred for great layers. Eggs now ready. C. U. CHAMBERLAIN, Los Gatos, Cal.

S. C. RHODE ISLAND EGGS, WINSLOWS strain. $1.00, $2.00, $3.00 for 15. MRS. JOHN E. ADAMS, Box 785, Monrovia, Cal.

LIGHT BRAHMA EGGS FOR HATCHING. $1.00 per 15 or $6.00 per 100. J. S. BENNER, San Bernardino, Cal.

THOROUGHBRED BARRED ROCK eggs; pens headed by cocks from Bemis' prize winners, $2.00 per 15. A. E. WARD, Kenwood, Cal.

BROWN LEGHORNS—PRIZE WINNERS—Eggs $1.50 and $2.50 per 15; $5 and $7 per 100. MRS. C. H. VARY, Pomona, Cal.

WYKOFF WHITE LEGHORNS—BRING results. $1.50 per setting. $7.50 per 100. W. F. HISLOP, Riverside, Cal.

MAMMOTH BRONZE TURKEY EGGS FOR sale. Ten dollars a hundred. MRS. W. B. RICHARDS, Holtville, Cal.

PHEASANTS.

SEND 25c FOR BOOKLET "PHEASANT Farming." Tells how to raise pheasants. Many beautiful halftones. SIMPSON'S PHEASANT FARM, Box C247, Corvallis, Oregon.

POST CARDS.

FREE—A VERY PRETTY "FLAG" CARD. An excellent portrait of Admiral ("Fighting Bob") Evans is printed on a beautiful embossed post card showing "Old Glory" in brilliant colors and gold. Send name and address with stamp to WALTER SPECIALTIES CO., 227 South Fremont Avenue, Los Angeles, Cal.

CALIFORNIA FARMS BOUGHT AND SOLD.

IF YOUR FARM IS FOR SALE LIST WITH me for quick results. If you are looking for a farm, write me, giving particulars and location desired. H. O. JACKSON, 1112 Broadway, Oakland, Cal.

DOGS.

SABLE AND WHITE COLLIE PUPPIES—Sires, Brandane Wishaw Squire and Glen Fana Bounder, litter brother to Aufield Model. Dams, Ormskirk Gloriana and Presidio Nellie. $10 to $25; 2 to 8 months. GLENALPINE KENNELS, Grandville, Cal.

TREES.

FOR SALE—100,000 BLUE GUMS, ALL balled in flats. Price $6.00 per thousand F. O. B. Anaheim; fine plants 4 to 8 inches. Address L. Z. HUNTINGTON, Anaheim, Cal.

FOR SALE — 20,000 BLUE GUMS AND other ornamental stock, sweet potato and tomato plants now ready in quantities. COVINA FLORAL NURSERIES, Covina, Cal.

FOR SALE—LATE VALENCIA ORANGE trees. ADOLPH RIMPAU, Anaheim, Cal.

MACHINERY.

MACHINERY FOR SALE—ELECTRIC AND gasoline engines, pumping plants, pipe. Good bargains in new and second-hand machinery. LOOMIS & BROWN, Machinery Brokers, 323 Citizens Nat'l Bank Bldg., Los Angeles, California

FOR SALE—GASOLINE ENGINES FROM 2 to 100-H. P. in good running order guaranteed the same as new at a snap. Be sure and see us before buying as we can save you money. BAILIE & BRANDT CO., 943 N. Main St., Los Angeles, Cal.

POULTRY

BARRED PLYMOUTH ROCKS, OCEAN Blue strain; for show points and as layers, unsurpassed; if you don't believer it, try a setting or two of eggs or, better still, an incubator lot, and prove it, as many others have done; eggs, $2 to $5 per 15; incubator lots, $8 100. MRS. AND MR. D. T. WIELAND, Moneta, Cal. Take Moneta ave. car for Redondo, get off at Illinois st., Moneta, right on ranch.

BLACK MINORCAS OF QUALITY—A Choice lot of large size cockerels bred to standard requirements. A rare chance to get an excellent breeder $2 to $5. One pen mated up for my own use of finest high scoring female specimens and layers, standard weight and over, to a grand cock bird which headed Geo. H. Northup's first pen last season. A few settings to spare at $3.00. J. P. McDONOUGH, Geyserville, Cal.

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FOR SALE—30 WHITE WYANDOTTE hens and pullets; 20 Buff Wyandotte hens and pullets $1.50 each; 15 male birds $2.00 to $5.00 each. These are this year's breeders and are good birds, true to shape and color. M. E. DILLINGHAM. Tel. Home Black 198, San Gabriel, Cal.

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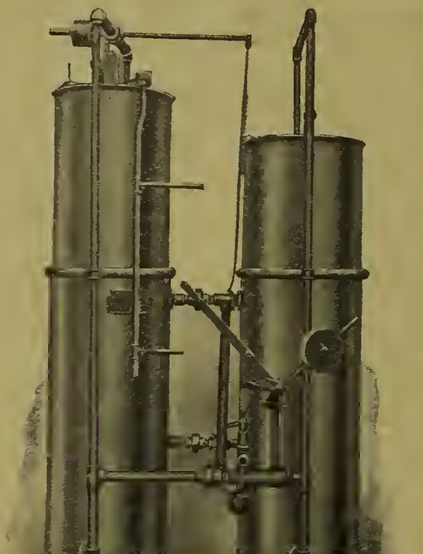
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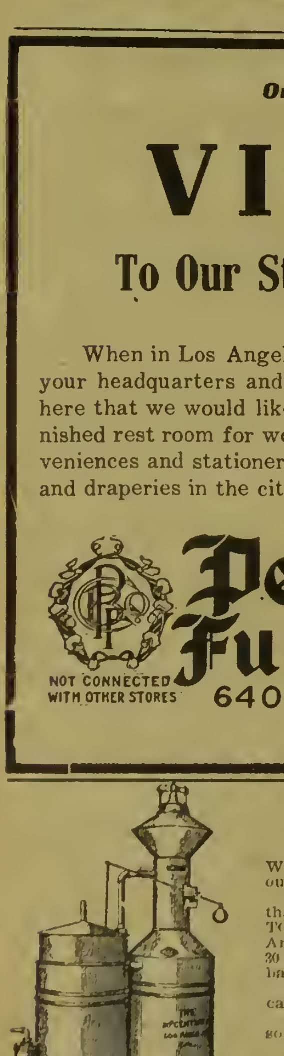
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Household Departm

CURLY HEAD RHYMES.

Curly Head, Curly Head, what do you think,
A valentine for you, printed in pink;
Drop Teddy Bear and doll from your hand,
Come here to grandma, who can't understand
Why sweetheart so soon should get valentines
Prinked up with roses and hearts wreathed with vines.
Listen, it reads: "Dear love, it would be fine,
If I could be Curly Head's Valentine."
I can't guess who sent it, can you, Curly Head?
And Curly Head said it was Charlie, or Ned,
Or—horror struck, grandma stopped her and said,
Come, its high time that I tucked you in bed.

THE GIRL HE LOVED.

"IF YOU marry a servant girl, Philip Acton, out of my house you go, and out of my will. Your income will stop; and you may seek your fortune where you like, for you will never more have a penny of mine."

"I shall marry Mattie Morely, for I am engaged to her and I love her and she loves me, and it can not be otherwise," said Philip, sadly.

He did not disguise his sadness—he never tried to disguise anything—and this threat, which he knew his grandmother would carry out, altered all his life.

He had been brought up to expect to be her heir, and since his boyhood his only task had been to care for her property, to see to the collecting of the rents, to go about among the tenants acting as her agent.

He had plenty of occupation, it is true, and perhaps he had acquired knowledge by which he would be able to earn his bread and butter; but he had been used to spending an income that was a fine one for a young bachelor, living in good style, and he had expected to be a rich man one day.

It had never entered his head to think less of the very prettiest girl he had ever seen because she waited on table at the old hotel called the Yellow Bear.

In the course of his journeys in the interest of his grandmother's property, he had taken dinners and lunches, and once or twice during a storm stayed all night at the Yellow Bear.

And Mattie had waited on him, and he had fallen in love with her; he had told her so and she had promised to be his wife, and he had been quite sure that his grandmother would like her and be highly pleased.

Oh, how many young men are sure of that very thing! They see their lady-loves through the rose-colored glass which Cupid doles out to lovers, and do not realize the fact that the spectacles through which elderly people will regard them are generally darkened by the smoke of prejudice.

And so to-night, when Philip had seated himself beside his grandmother, and sung his love's praises and told his story, the old lady had first looked serious and then asked:

"Who is she?" And hearing, had started up wringing her hands and crying out: "Oh, Phil—Phil! I can not believe it! Hired help? You're in love with hired help? You are engaged to her? I knew the namo of Morley was not amongst the good families of the neighborhood; I thought of girls from the factory—of telegraph operators. But I never dreamed that an Acton would lower himself by choosing a servant girl; I thought he would choose a lady, whatever else she was."

"Whatever else she is, Ma
ley is that," Philip Acton sai
let me bring her to se you, a
know that as well as I. Oh
grandma, I should not hav
her had she been coarse or v
anything but sweet and
She'll be a comfort in the
joy in your life, grandma.
believe me, when once you
you'll know that."

"A comfort in the house—
my life," repeated old Mrs.
"Phil, she shall never come
life. You are of age and
her with you if you choose
that hour we part forever"

And then she made the th
which our story opens, and
made his answer.

"Don't be so sure, Phil,"
old lady, laughing. "I haven'
that your pretty waiting m
very prudent person, and th
she knows that you will n
rich young man she set he
she will decline the honor
pose. Philip Acton, with his
full of money, and all the
erty coming to him one d
thing, and a young fellow
trade or profession and no
whatever, looking for someth
is another, and so you'll fin
You'll come to me and say
sorry, grandma,' in a day or
I shall say, 'I knew you w

Phil's face grew more d

"It may be that Mattie wi
to me," he said. "I've been
in one woman—you, grandm
thought you cared for me,
may be Mattie has no mo
than you; but she shall
chance to be true if she ch

Then he walked out of th
and his grandmother allowed
to soften a little.

"Poor boy!" she said
should he make such a fool
self? But if he makes the gir
I'm in earnest—and I an
break the engagement her
told him."

She rang the bell and orde
self a glass of hot wine an
with some cloves in it, and
bed. But even this sleepin
did not soothe her to rest. S
to remember the past; troubl
ways come into the family
love affairs. To be sure,
Philip's father, had chosen
whom she approved. Bu
died when Philip was born,
young man had pined away
himself to death over her l
eldest daughter had married
her will; now she was dead,
husband, also. Her young
eloped from boarding school,
vanished from her life on
The marriage was in the pa
she had a note in which the

"Oh, mother, mother, don
me. You said you would nev
marry him, and we can not liv

That was long years ago,
she had now was Philip, and
thought her word was law

She had hoped she should
to keep him from marrying a
she lived.

"What does a boy want of
she asked herself.

Let him flirt with the girls
pleases, have the smiles a
kisses that belonged to his y
not a wife; unless, indeed,
grandmother—should one day
one for him.

Philip, however, had taken

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e Building, Los Angeles, California

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into his own hands, and chosen a maid-servant.

The next day Philip told Mattie Morley that he was to have no fortune and she guessed why, and the two young people, who saw nothing worth living for but love, swore to be true to each other, and Philip left his grandmother's home and went to town to look for a situation.

The old lady's heart ached over this. For some weeks she said to herself that Phil would be tired of it soon; but at last she began to know that the boy would be loyal to his true love at any cost, and now she made up her mind to try what she could do with Mattie. So she bade her coachman bring her carriage to the door, and was driven to the "Yellow Bear."

Concluded next week.

REFRESHMENTS FOR FIFTY PEOPLE.

A valuable aid when providing for church entertainments, weddings and similar gatherings.

As the time approaches for general church reunions, many hostesses are puzzled, when refreshments must be served, as to the exact quantities that should be prepared for a given number. For the benefit of the inexperienced entertainer the following table has been prepared from actual experiences. These quantities can be divided, sub-divided or multiplied, according to the number to be served:

Coffee, to make three gallons, one and one-half pounds. Coffee, black, in after-dinner cups, two and one-quarter gallons. Chocolate, to make two gallons, one pound. (Twenty-five to thirty cups full are counted to one gallon.)

When both tea and coffee are served: Tea, one gallon; coffee, one and one-half gallons; loaf sugar, two pounds.

Frappe or sherbert, two to three gallons. Bouillon, hot; two and one-half gallons. Bouillon, jellied, two and one-fourth gallons. Ice cream, two and one-half gallons. Brick ice cream, two gallons. Ices to serve in small sherbert glasses, one and one-half gallons. Mousse, biscuit or parfait, two gallons. Cakes, loaf or layer, two to four. Wafers, five boxes. Bonbons, three and one-half pounds. Salted nuts, three to four pounds. One-half pound of blanched almonds make 24 dessert-spoonfuls, equal to two and one-quarter pounds. Berries, seven to 10 quarts. Sugar for berries, two pounds. Raw oysters, used chopped, one gallon. Large oysters, in coquiles, seven and one-half quarts. Ham, one small or one-half large ham. Chicken or turkey, Salad, one and two-thirds gallons. Chicken salad, four pounds chicken to one quart salad, seven pounds. Lobsters, two for one quart of salad. Potato chips, four pounds. Olives, by number, 200 to 210 in bottle of one quart. Rolls, six dozen. Butter for rolls, one pound. Sandwiches, one sandwich loaf cuts into 24 slices, three to six loaves. Butter for six loaves, two pounds. (Each loaf requires one cupful of butter and paste, of other filling, one pint.) Meat for croquettes, three quarts. Mixture for timbales of patties, two quarts. Fruit jelly, five quarts Aspic or other jelly, molded, one quart to six or eight people, seven quarts. —Farm Students' Review.

Keep close to the heart of your farm.

HOMELY HINTS.

It is quite difficult to arrange the jelly bag when making jelly so that it is easily managed. A very good plan is to hem the edge of the bag over a large embroidery hoop. Sew a tape firmly to the hoop by which to hang it when put to drain. With this arrangement the hot fruit may be poured without spilling and there is no danger of the bag slipping or burning oneself. A jelly bag should always be made with a point or angle at the bottom to insure the maximum of pressure.

* * *

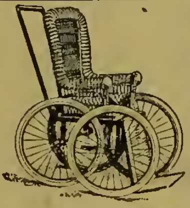
If by some misfortune your cake should burn, an effective instrument for removing the burned crust is a flat grater. It is far better than a knife in that it does the work more evenly and leaves a smoother surface for the icing.—Lotta I. Crawford, Assistant in Domestic Science, Colorado Agricultural College.

* * *

In cutting hard butter into even slices or tiny squares fold a piece of waxed paper over the blade of the knife used. In this way a smooth cut may be made without breaking or crumbling the butter. A piece of the paper which comes around the butter may be used for this purpose.

* * *

When covering an iron board make it on the principle of a pillow slip, making it the shape of the board and very tight to prevent wrinkling. It is a good plan to have several of these covers, so they can be frequently changed and laundered.



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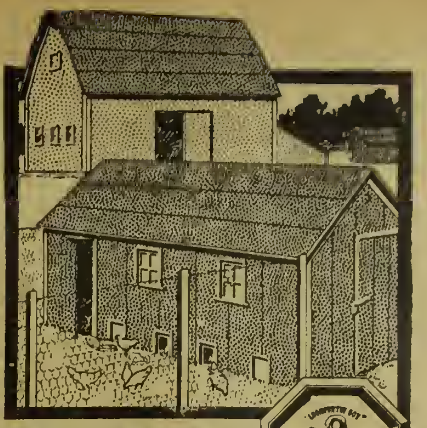

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Home Savings Bank
152 N. Spring St., & 540 S. Broadway
Los Angeles, California

The Produce Markets

Los Angeles Markets

LOS ANGELES, April 22, 1908.

The heaviest receipt of butter in years, was the record of the market on Tuesday. Over 100,000 pounds was the day's receipts, which combined with the fact that the day was observed as a holiday for reception of the fleet, tended to weaken the maryet, but a breakdown prevails, which yet, but a breakdown prevails, which discourages heavy buying.

Creamery ex per roll	47½
Firsts	45
Dairy	22
Cooking	17
"Butterine"	15@20

Cheese.

California Anchor	18
Northern fresh	14@15
Eastern singles	17½
Imported Swiss	29@30
Tulare flats	15@15½
Swiss	18@19
Oregon	18

Eggs and Poultry.

Eggs have eased off since last quotations and receipts continue heavy. A cent and a half lowering of quotations is noted in the last few days.

Eggs local candle	19
Eggs case count	17
Northern candled	18
Case count	15½@16½
Eastern fresh	19½
Hens per lb	14@15
Young roosters per lb	15
Fryers	22
Broilers per lb	24@25
Roasters	18
Old roosters	8
Turkeys	15
Geese	13
Ducks	15
Squabs	1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds	6½
Prime steers	4½
Heifers	4
Calves per lb	5
Sheep ewes per head	4.75
Lambs per head	3.50
Wethers	5.50

Potatoes.

Highlands	90
Early Rose	1.70@2.25
Salinas	1.25@1.50
Sweet potatoes per sack	3.50@3.75
Sweets Northern	3.00@3.25
Oregons	1.55
White Rose	1.35
Watsonvilles	1.35
Nevadas	1.35
New potatoes by lb	3@4

Onions.

Conditions with onions remain stationary. No charge noted during the week.

Bermudas per crate	1.85@2.00
Oregons	4.25@4.50
Minnesota	4.05@4.30
Garlic	18
Ohio	4.00@4.25
Colorado Red	4.25@4.50
Nevadas	4.25@4.50
Silverskins new	1.85@2.00

Vegetables.

Artichoke per doz	50@60
do Jerusalem box	75
Asparagus per lb	5@6
Asparagus green	9@10
Beets per doz	25
Bell peppers per lb	40@50
Beans limas per lb	10@12
Beans green	12@15
Beans Yellow	5@8
Brussels sprouts per lb	12@18
Cabbage sack	65@75
Cabbage red per lb	1½
Celery per doz	90
Chili peppers per lb	25
Chives per doz	1.25
Cucumbers per doz	1.75@2.25
Cauliflower	75@1.00
Carrots per doz	30
Egg plant lb	30
Green onions doz bunches	20@30
Hubbard squash per lb	1@1½
Lettuce per crate	75@1.10
Mushrooms per basket	1.75
Okra	45
Peas sugar per lb	1½@7½
Parsley	30
Parsnips	35@40
Rhubarb per box	1.00
Radishes per doz	15@20
New summer squash per box	1.40
Salsify	40@50
Spinach per doz	15@17½
Turnips doz bunches	40
Tomatoes per box	2.00@2.15

Citrus Fruits.

Navels fy	1.60@1.75
Navels ch	1.25@1.50
Tangerines	1.60
Culls	40
Grapefruit seedless	2.50@3.00
Grapefruit seedlings	1.50@1.75
Lemons fancy	2.00@2.25
Lemons choice	1.00@1.25

Fresh Fruits.

Bellefleurs	2.00@2.25
Baldwins	1.50@1.75
Pippins 4-tier	1.50@1.75
W W Pearmains	2.00@2.30
Colorado Jonathans	3.00
Cal Ben Davis	1.75@2.00
Loquats per lb	3
Dewberries N	10@12
Raspberries	25
Strawberries	3@4
Extra fancy	15

Dried Fruits.

Apricots	18@22
Evap apples fy per lb	11@12
Figs loose	7
Peaches	11½@12
Pears	16
Nectarines	16
Prunes	3½@5½

Beans Dried.

Limas per ctl	4.50
Pink No. 1	3.50@3.65
Lady Washington	3.85@3.95
Small White	3.75@3.85
Black Eyes	4.50@5.00
Garvanzas	5.50
Lentils	11½

Nuts.

Almonds per lb	17½
Pecans polished	16@17
Peanuts Virgina	8½
Peanuts California	8½
Walnuts No 1 SS	16
Walnuts No 1 H S	14@15

Honey.

Extracted Water White	7¼@7½
Comb W W	14

Hay.

Hay quotations are rather higher than last weeks. The showers which are falling this morning will do vast good and may possibly lower prices slightly if continued sufficiently long.

Price paid to producers f. o. b. Los Angeles are as follows:

Barley No 1	15.50@16.00
Barley No. 2	9.00@11.00
Alfalfa northern per ton	12.50@13.50
Alfalfa local	17.00@18.00
Plain oat No 1	15.00@17.00
Wheat No. 1	15.00@16.00
Wheat No. 2	11.00@12.00

Grain.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl	1.85
Wheat in 100-lb. sacks	1.90
Barley	1.50
Corn Eastern sacked	1.80
White oats	1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn	1.85
Shorts	1.70
Bran	1.55
Oil cake meal	2.50
Feed meal	1.90
Rolled barley	1.55

San Francisco Markets

SAN FRANCISCO, April 21, 1908.

Butter.

For a day or two after last week's quotations were given, butter advanced a cent. Later quotations fell to the present 22½ and there remains, though many holders are demanding 23 cents. Market is very firm.

California extras per lb	22½
California firsts	22
California seconds	20
Fresh packing stock	19
Fresh packing stock No 2	18

Cheese.

California young American fy	13½
California flats fy	11½
Firsts	11½
Eastern fy	18
Oregon fancy	14

Eggs and Poultry.

Eggs held as quoted till Saturday when they advanced a cent. Monday they declined a half cent and now are firm at 21½.

Fresh ranch eggs	21½
Eggs firsts per doz	19
Eggs second per doz	17½
Hens per doz	5.00@6.50
Hens extra	7.00@8.00
Young roosters	7.50@8.50
Old roosters	4.00@4.75
Fryers per doz	6.50@7.50
Broilers per doz	4.00@5.00
Geese per pair	2.50@3.00
Ducks young	5.00@7.00
Turkeys per lb	14@16
Pigeons	1.00@1.35

Live Stock.

Steers No 1	8½@9
Do second quality	7½@8
No. 1 cows and heifers	7
Hogs 80 to 200 lbs	6@6¼
Hogs 200 to 300 lbs	5½5¾
Calves per lb	3½@5
Lambs	6@6½
Wethers No 1	5½@3¾
Ewes No 1	5@5½

Potatoes.

The potato market is rather slow with easy arrivals. However, slight advances are noted on a few grades.

River Whites	40@85
Oregon Burbanks	85@1.05
Lompocs	1.10@1.20
Early Rose	1.25@1.35
River Reds	1.35@1.40
Salinas Burbanks	75@1.15
Sweets per crate	2.50@3.25
New potatoes per lb	2½@3

Vegetables.

Asparagus per lb	3@5
Asparagus per lb	6
Celery per doz	35@50
Cucumbers per doz	1.00@1.50
Chili peppers per lb	15@17½
Bell peppers per lb	10@15
Egg plant per lb	10@12½
Green peas per sack	1.50@1.75
Squash per box	50@1.25
Marrowfat squash per sack	60@75
Mushrooms	75@1.25
Hubbard squash per sack	60@80
Onions green per box	60@75
Rhubarb per box	75@1.25
Tomatoes local	1.25@1.75
String beans	12½
Garlic	15@20

Onions.

Oregon yellow	3.50@4.00
Eastern Red	3.00@3.50
Bermudas per crate	2.00@2.25
Australian Brown	5.00@5.50

Citrus Fruits.

Navels fy	2.00@2.40
Navels ch	1.90@2.10
Grapefruit seedless	2.50@3.00
Grapefruit seedlings	1.25@1.50
Tangerines	1.50@2.00
Lemons	1.50@2.50
Limes	6.00@6.50

Fresh Fruits.

Newtons	1.65@2.00
Spitzenberg	1.75@2.00
Pomegranates per box	1.00@2.50
Strawberries per ½ crate	75.@1.00
Longworths per chest	8.00@15.00
Aligator pears	1.50@3.00

Dried Fruits.

Apples (evap.)	5½@6¾
Apricots per lb	13@17½
Figs white	2¼@3½
Nectarines	10@13
Plums pitted	12@14½
Peaches	7¾@9¼
Pears	7½@11
Prunes 4-size bag basis	2¾@3½

Beans Dried.

Limas	4.60@4.70
Pink	3.00@3.10
Small white	3.40@3.55
Large white	3.45@3.60
Lady Washington	3.45@3.50
Black Eyes	3.25@3.50
Red Kidneys	3.20@3.40
Garvanzas	4.00@4.25
Bayo	3.00@3.15
Horse beans	2.25@2.40

Hops.

Hops per lb	3½@6¾
Hops old fancy	1@2½

Honey.

Clear white comb	16@17
Amber	12@15
Extracted	7½@8
Beeswax No. 1 per lb	26@27
Beeswax No. 2 per lb	23@25

Hay.

Choice wheat hay	18.00@20.00
Good wheat hay	15.00@16.00
Other grades same	11.00@15.00
Wheat and oat	16.00@18.00
Tame oat	15.00@17.00
Wild oat	13.50@17.00
Stock hay	7.50@@9.50
Alfalfa	9.00@13.50
Straw per bale	50@.90

Grain.

Wheat No 1	1.57½@1.65
Barley No 1	1.35@1.40
Corn large yellow	1.60@1.70
Oats white	1.50@1.57½
Oats red	1.52@1.60

Feed Stuff.

Bran per ton	30.00@32.00
Feed cornmeal per ton	33.00@35.00
Cracked corn per ton	34.00@36.00
Rolled barley per ton	29.00@31.00
Oil cake meal per ton	37.50@39.00
Cocoanut cakes per ton	27.00@28.00
Middlings	33.00@36.00

Horticultural Commissioner Burr of Kern county after an extended investigation of the White Fly district near Bakersfield has reported to the supervisors that he is unable to find any indication of White Fly.

Citrus Marl

LOS ANGELES, April

The orange market is e strong and every indicati A few houses have ended s navels and the seeds, sweets are, if anything, ra than a week ago. Fruit well and transportation are giving much better formerly.

Lemons are stronger a condition to command a vance in case warmer weat at market points.

Shipments.

Total shipments of c tr date since Nov. 1, 1907. 1 which 2023 were lem date last season, 14,749 c 1433 were lemons.

NEW YORK, April 2 active and lower in cool and coludy. Thirty one navelencia, two J seeds, two lemons.

Afternoon Sales—Elev two Jaffas, and one Market steady. Weat warm.

NAVELS—
Verrito L V W Brow
Swastika L V W Brown
Sunshine Orange Grs
E Highland E Highland
Golden Scepter Rialto O
Crafton Red G O Assn
Golden Rule Riv Ft Ex
Victoria A H Ft Ex...
Lincoln A H Ft Ex...
Iris D M Ft Ex........
Violet D M Ft Ex ......
Stag A C G Ft Ex.......
Pointer A C G Ft Ex.
Blue Globe Riv Ft Ex
Red Globe Riv Ft Ex
California Orange Riv F
Pointer A C G Ft Ex...
Pet S A Ft Ex........
Ostrich S B Ft Ex......
Winner S B Ft Ex.......
Red C Cov Ft Ex......
Red Shield A C G Ft E
Green Crown A C G Ft
Airship V C Ft Ex...
Golden West Haight Bet
Mallard C C U........
Partridge C C U........
Niagara Stewart Ft Co.
Independent Cleghorn B
Whittier W F Whittier
Curtiss L R Curtis Co.
Lionhead 1 L Lyon & S

SEEDLINGS—
Mission Bells A B Chapn
Memories A B Chapma
Niagara Stewart Ft Co
Blanchard H W Blancha
Lucky Strike Hill & Fitzg

JAFFAS—
Highland Grove........
Highland Grove......

ST. MIKES—
Red Shield A C G Ft E

TANGERINES—
Mahala........
Solano........

GRAPEFRUIT—
Blue Seal........
Iris..........

LEMONS—
Rialto Girl
Orchard Run............
Choice........
Standard....
W Highland........
Choice......
Standard........

CLEVELAND, April steady. Weather favor sold. Ten track.

NAVELS—
Fiesta Riv Ft Ex Pa
Stock Label Riv Ft Ex
Pond Lilly Riv Ft Ex
Violet D M Ft Ex Mo
Jasmine D M Ft Ex M
Newsboy R H Ft Ex R
Royal Knight R H Ft
Floral S B Ft Ex Colt..
Ranch S B Ft Ex Colt..
Cosmos S B Ft Ex Hig
Redlands Oranges R H I
Newsboy R H Ft Ex R

RUBY BLOODS—
Royal Knight R H Ft

SEEDS—
Lucky Strike Hill & F

LEMONS—
Pet S A Ft Ex seedlings
Greyhound S A Ft Ex
Duck..........

TRUE STORY.

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the milk of three or more

many different makes and
United States and Can-
have their good and bad

of separators claim to be
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he Pan-American Exposi-
was the last public, inter-
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States Separator, the im-
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this marvelous cream pro-
the Improved United
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cents per foot; 1 inch, 4¾
foot; 1¼ inch, 6 cents per
inch, 7 cents per foot; 2 inch,
per foot; 2½ inch, 15 cents
3 inch, 18 cents per foot; 3½
ents per foot; 4 inch, 32 cents

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nts per foot; 2½ inch, 9 cents
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r Hatchery
in St., Los Angeles

NAVELS—

Golden Flower Red G O A	2.85
E Highland E High C A	2.70
Wolf Penn Ft Co	2.55

CINCINNATI, April 20.—Weather warm. Market is advancing. Five cars sold. Three on track.

NAVELS—

Greyhound S A Ft Ex Dimas	2.55
Hawk S A Ft Ex Clare	2.60
Parrott S A Ft Ex Clare	2.75

LEMONS—

Greyhound S A Ft Ex Dimas	1.70
Florida Brights	2.25 to 2.50
Duck S A Ft Ex Dimas	1.35
Russets	2.25 to 2.40

ST. LOUIS, April 20.—Market steady. Weather warm. Ten cars sold. Twenty on track.

NAVELS—

Hawk S A Ft Ex Pom	2.45
Truth Riv Ft Ex Arlington	2.40
Blue Jay O K Ft Ex	2.45
Planet S S Ft Ex Orange	2.50
Volunteer S A Ft Ex Pom	2.70
Select S A Ft Ex Pom	2.45
Pride California Riv Ft Ex Arlin	2.40
La Paloma Riv Ft Ex Arlington	2.35
Belt R H Ft Ex High	2.55
Searchlight S S Ft Ex Orange	2.45
Greyhound S A Ft Ex N Pom	2.60
Golden Scepter Rialto Orange Co	2.55

BLOODS— Ruby—

Pride Cal Riv Ft Ex	2.40
Searchlight S S Ft Ex	2.25

SWEETS—

Planet S S Ft Ex	2.45
Searchlight S S Ft Ex	2.25

SEEDS—

Planet S S Ft Ex	2.35

VALENCIAS—

Searchlight S S Ft Ex	3.15

ST. MIKES—Halves—

Orchard Run	1.25

TANGERINES—Halves—

Volunteer S A Ft Ex	1.55

LEMONS—

Oakleaf T C Ft Ex Porter	1.35
Full Value T C Ft Ex Porter	1.35
Bridal Veil Pinkham & McKevett	2.20
White Cross	2.00

PITTSBURG, April 20.—Market is firm on good fruit. Weather favorable. Fifteen cars sold. Twenty-three on track.

NAVELS—

Select S A Ft Ex Clare	2.45
Planet S S Ft Ex Orange	2.35
Greyhound S A Ft Ex Dimas	2.40
Sweetheart Highgrove Ft Ex	2.95
Blue Jay O K Ft Ex	2.35
Standard National	2.50
Cress Queen Ely Gilmore Ft Ex	2.70
Fountain Speich & Morgan	2.60
Golden Flower Red O G Assn	2.65
Grove R H Ft Ex	2.70
Blue Jay O K Ft Ex	2.45
Riverside Oranges Riv Ft Ex	2.35
Cluster S A Ft Ex Dimas	2.40
Eagle Highgrove Ft Ex	2.65
Orchard National O Co	3.05
Chess Queen Ely Gilmore Ft Ex	2.65
Fountain Speich & Morgan	2.60
Our Popular F H Speich	2.30
Golden Flower Red G O Assn	2.70

SWEETS—

Planet S S Ft Ex Orange	2.30
Quail O K Ft Ex	2.65

SEEDS—

Searchlight S S Ft Ex	2.35

ST. MIKES—Halves—

Orchard Run S S Ft Ex	1.35

TANGERINES—Halves—

Coyote O K Ft Ex	1.35

BLOODS—Halves—

Quail O K Ft Ex	1.55
Coyote O K Ft Ex	1.40

LEMONS—

Liberty A W Wohlford Escondido	2.10
Foxaway A W Wolford Escondido	1.85

PHILADELPHIA, April 20.—Ten cars navels, two seeds, two mixed, and two lemons sold. Market is easier. Weather favorable. Five cars of Florida oranges and grapefruit sold. Market steady. Four thousand boxes Sicily lemons arrived S. S. Ida, selling this P. M.

NAVELS—

Greyhound S A Ft Ex Pom	2.43
Pointer A C G Ft Ex Glendale	2.31
Cosmos S B Ft Ex Yerkes	2.47
Tallyho S B Ft Ex Rialto	2.55
Blue Jay O K Ft Ex	2.41
Aloha Red O Prod	2.60
Valle Vista S D Grs Ft Co	2.63
Tahquitz Hemet Dist	2.75
Victory C C U	2.30
Select S A Ft Ex Pom	2.28
Hunter A C G Ft Ex Glendale	2.63
Puritan S B Ft Ex Rialto	2.64
Canyon S T Ft Ex Lam	2.18
Camellia Red Mut Or Ex	2.76
Naraimo	2.67
Banner Pinkham & McKevett	2.54
Young America Pink & McKev	2.31

SWEETS—

Valle Vista Grs Ft Co	2.45

SEEDS—

Mission Bells A B Chap	2.47
M Memories A B Chap	2.39
Selected H W Blanchard	2.24

BLOODS—

Naralimo	1.32
Choice ½	1.22

ST. MIKES—

Valle Vista Grs Ft Co	2.67

LEMONS—

Circus	1.35
Bunker Hill C C U	1.28
Liberty A W Wohlford Escondido	2.09
Foxaway A W Wohlford Escon	1.71

A COMMON TYPE.

An' day after day
Bill Jones talk'd away
From a store box fer all he wuz worth;
An' his wife took in sewin'
T' keep things a-goin'
While Bill superintended th' earth.
—Exchange.

THE VANITY OF WOMAN.

Dismal Dave—Wonder why 'tis dat wimmen is most allers better lookin' dan us men is?

Lazy Luke—Dat's a easy one. A woman washes her face 'most every day jist fer de looks uv it.—Chicago News.

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kills Prairie Dogs and Gophers of all kinds. Endorsed by Experimental Stations, U. S. and Canada. Ready for use 1400 delicate morsel, edible tablets for $1.25 delivered. One will kill a gopher. Warranted "Use before vegetation starts." Ask your druggist to get or send direct. Raticide Tablets send Rats to Rat Heaven. 25c. Jobbers carry it. Booklet free. Fort Dodge Chemical Co., Office 230 Monadnock Bldg., San Francisco.

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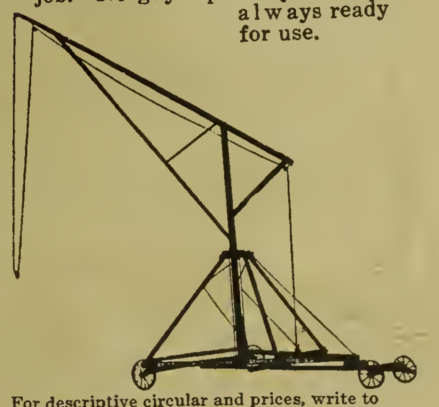
The Brust Portable Automatic Derrick

is the greatest labor saver on earth—if you doubt it, buy one and convince yourself. Two men and a boy will unload and stack a two ton load of hay in less than ten minutes and will load out of a stack on to a wagon in the same length of time. Makes loading baled-hay an easy and quick job. No guy-ropes required and always ready for use.



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It is a wise farmer who knows the hens that are not laying.

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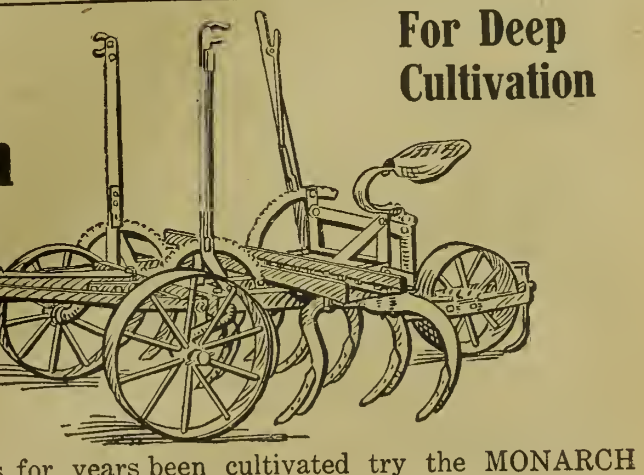

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FACTORY AT YOUR DOOR

LONGEST LIFE *FEWEST PARTS*
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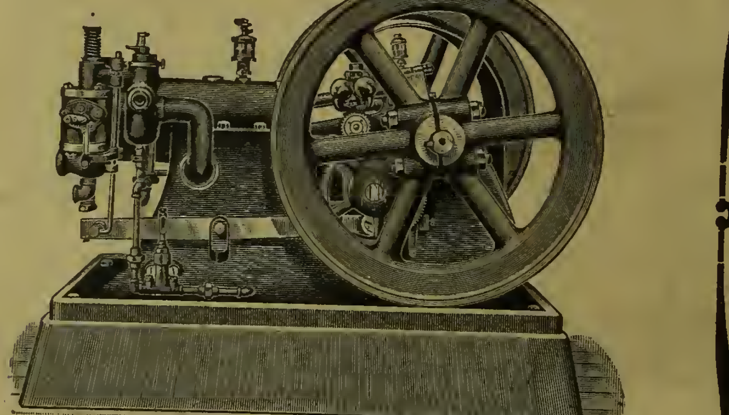

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For high or low heads
Direct Connected or Belt Driven
Highest obtainable efficiency

Krogh Man'f'g. Co.
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Will not carbonize. Costs no more than poorer oils and is better. Write for price, mentioning style of your engine.

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Guaranteed to deliver from 100 gallons per minute upwards, depending on the diameter and capacity of well, from a depth of 50 to 300 feet below the surface. Can be either belt driven or direct connected to electric motor as occasion requires.

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Turbine

A deep well pum
no valves or plung
or get out of order
consequently no no
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Compact, durab
primed and ready
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ALFALFA BEEF.

Modern Stock Methods in Arizona

IN THE MOUNTAINS BEFORE SNOWFALL.

THE RANGE FAVORITES.

ORNS and hair" were at one time a leading feature with Arizona stock tion. The Out West ine gives an extensive re- former conditions in the growing industry there, in the following by a cowboy aker is given:

re the herd of long-horns
fenceless tracts are driven;
ore the water, grass and care
Spanish scrubs are given.

ore the old-time cowboy
the midnight watch can hear
arkness-covered Indian
a coyote drawing near.

SEPARATING BANDS OF SHEEP.

No more great herds go drifting
O'er miles of winter waste,
While the sleet and snow fast drives them,
No grass or weed to taste.

No more the starving calves
On mesquite flats are found;
No more the trampled carcass
Upon the bedding ground.

No more the big spring round-up
O'er the country sweeps,
For each man has his pasture now
And each his own stock keeps.

For some one chanced to figure
That our trouble was in brief—
We raised too much of horns and hair,
And not enough of beef.

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CRESOLENE
Lice Killer
Disinfectant
and Dip

Dilute With Water Before Using

CRESOLENE is a powerful disinfectant, insecticide and germicide obtained from coal tar. It is non-poisonous, and non-corrosive and will do no harm to the most delicate skin.

It mixes readily with water, forming a milky emulsion, and can, therefore, be diluted from 50 to 100 times its own bulk, in accordance with the different uses to which it is put.

Thus when you purchase 1 gallon of CRESOLENE you can make up to 100 gallons of the best disinfectant at a cost of only 11-4 cents per gallon. Write us for particulars and guarantee.

PRICES: Quart can 50c; One-half gal. 85c; Gallon $1.25.

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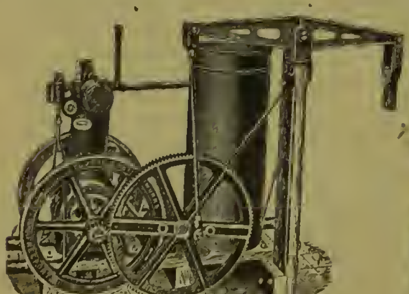

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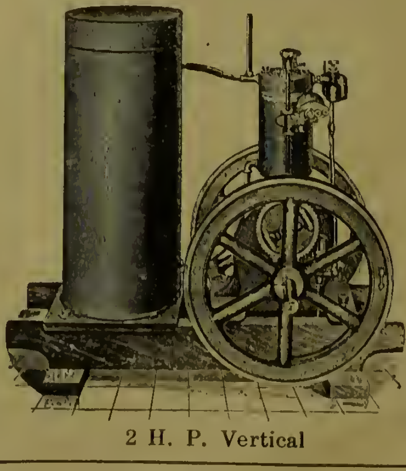
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alifornia Cultivator

XXX—No. 18 Los Angeles, California, Thursday, April 30, 1908 Subscription $1 a Year

proved Methods of Walnut Grafting

An Address by J. B. Neff Before the State Fruit Growers' Convention at Riverside, April 28, 1908

ently gave a few points made by J. B. Neff, eim, at the Whittier Institute on the graft- walnut, also a photo taken in Mr. Neff's or- owing a tree just grafted. The same points, much more complete form, were given at e Fruit Growers' Convention at Riverside. of the interesting history of the walnut ural directions is omitted at this time, but given later. Here is, however, that part of ess relating to grafting the old orchard:

AFTING old walnut trees in order to form top of some more desirable variety than he original has long been practiced in a ay in California, but has been confined to black walnut stocks. Almost every ariety of fruit tree has been top grafted, them several times on the same tree, but as always been a hesitancy about cutting alnut tree that was not paying, the com- ief being that the work could not be done fully. That this is without foundation is y the many trees in various parts of the otably Santa Clara valley, the vicinity of le the vicinity of Santa Rosa and others, roadside trees and small orchards have rked over at various times, running back s 1893 at Vacaville, and 1891 at San Jose. f these trees now have a spread of s of 60 feet.

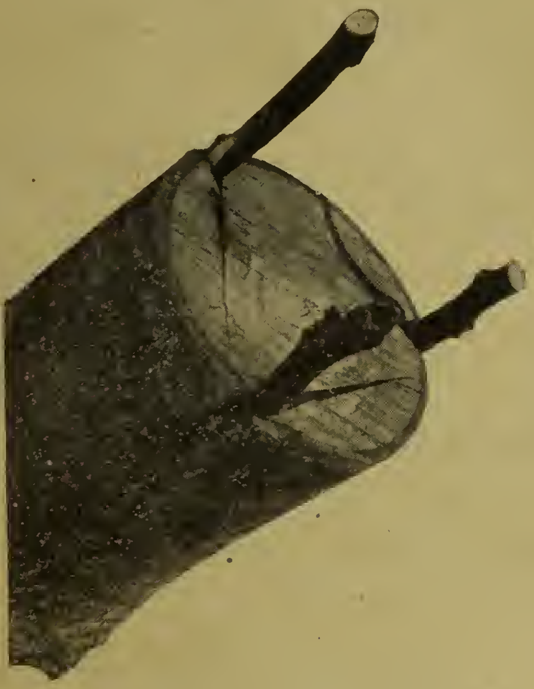
average seedling walnut orchard is not tory for several reasons; the nuts are un- size and form, the trees are not equally ive, and are largely subject to blight. It said that about one-fourth of the trees but few nuts, another fourth produce nough to pay their own expenses, leaving er half to make whatever profit is ob This will be entirely changed when the orchard is of grafted trees, grown from that came from resistant trees that pro- arge crops. Each tree will then produce ke every other tree, and if the selection ry stock has been properly done the trees very uniform in all respects.

ral styles of grafting have been practiced have had a fair degree of success, but mod- is of the cleft graft have been most gen- used, each operator making changes as ght best. If the trees are from three to ches in diameter they may be cut off at four feet above the ground and below the , then four or five scions may be placed stock, or three or four of the branches cut back to within 10 to 24 inches of the and two or three scions placed in each. other branches should be removed from unk.

trees of from twelve to twenty years should he branches cut at places where they are hree to six inches in diameter, and from eight stubs left, which will be from three feet in length and should have as many scions in the large stubs. The other es being removed before the scions are place.

method used in my orchard near Anaheim, was very successful, is as follows: Just the nuts were ready to gather last fall the rd was gone over, the trees that were non- cers and those that did not produce paying as well as those producing small or badly d nuts, were marked so they could be dis- shed later. The object in marking was to e grafting on trees that were of no com- al value and to keep up the production of walnuts to an amount equal to that of other years.

Having determined the trees to be grafted, the operator marks the stubs that are to be left by a small notch out of the bark at the place where the cut is to be made. All other branches are cut close the trunk of the tree. Several trees are marked while the assistant is preparing the first tree. The operator places the scions and the assistant follows with hot wax, covering all cuts on both scion and stock. In cutting large branches it is necessary to make two cuts, the first being some distance outside the final cut, to prevent splitting the stub or the trunk.



NEW METHOD OF MODIFIED CLEFT GRAFT.

The scions should always be of solid, mature wood, that is, with as small pith as can be had readily, and must have good living buds.

They should be about one-quarter inch in diameter and have at least two buds. The growth having buds close together is best, as shorter scions can be used which do not require so much moisture as the longer scions and consequently are more likely to grow.

When the tree is prepared use a heavy butcher knife and mallet to split the stubs, placing the knife across the stub as if a chip one-half to five-eighths inch thick was to be taken off. Then depress the handle of the knife to an angle of 30 to 45 degrees and split the edge down to 2½ to 3 inches, allowing the knife to reach the farther side of the stub but not making the split entirely across the stub. Open the cleft with an iron wedge ½ to ⅝ inch wide and thickest on one edge, placing the thickest edge toward the outside. Trim the cleft in the stub with a sharp knife so it will be smooth. Then cut the scion so as to fit perfectly and place it so the inner bark (the cambium layer) of both will be on the same line, or at least will cross twice, then remove the wedge and put hot wax over all the cuts on both stock and scion at once. It is as necessary that the scion should fit the cleft on the inside as it is to fit along the cambium layer, and also necessary that the cleft be filled with wax near the scion. The work should be examined every three or four days until leaves are formed, and if threadlike cracks are found near the scions they should be closed with hot wax so the scion will not be exposed to the air when the tree begins to grow. Any cuts on the body not waxed should have a coat of heavy mineral paint and the body and stubs a coat of whitewash.

The wax is made of 1 pound beeswax, 5 pounds rosin, 1 pint flaxseed oil and 1 ounce lampblack, melted together. The object is to get a wax that is soft enough to be pliable without running and a little practice will soon show whether the wax needs more or less oil.

A convenient furnace can be made for heating the wax in the orchard by taking a coal oil can, cutting out the top, placing four wires across, two each way, about four inches from the top, and cutting an opening to use in placing fuel in the bottom. A wire bail completes the furnace. A three-quart sauce pan is large enough to hold the wax which may be made as needed.

A good operator will place 300 scions per day and about 25 scions are needed in each tree to insure a stand; it being better to have more than is needed rather than too few.

If there is an excessive flow of sap it should be wiped off the stub at every examination of the scions and the stub covered with wax as soon as dry.

Any excessive flow of sap for several weeks will cause the loss of the scions, as the callus cannot form in water. This may be controlled by boring one-fourth-inch holes in the body of the tree near the ground. Care is needed that too many holes are not made. Three or four holes four inches deep will be sufficient to control the flow of the largest trees. No damage is done to the body of the tree as the holes soon callus over.

After the scions have made one foot growth it will be necessary to nail laths, 1 inch by 2 inches by 8 feet, Oregon pine, on the tree in such a manner that the shoots can be tied to them and the new tree formed as desired. Leave the laths on two years.

Do not take off any of the sprouts at first except such as may be very close to the scions, but as the scions grow some of the sprouts may be taken off. When the sprouts grow to two feet long they should be headed back but not removed until the following winter. Keep all the scions that will grow, the first year, and never head back the growth from a scion while it is in a growing condition. If more scions have grown than is needed they can be thinned out the next winter and if some scions should fail so as to leave a stub without growing scions, a sprout may be trained and budded the following August or September, or may be grafted the following spring.

Trees that are 15 years old when top-grafted may reasonably be expected to have a spread of 30 feet in four years and to be in full bearing. It is not at all unreasonable to expect an orchard to average 150 pounds to the tree, and trees that are 50 feet apart should produce an average of 200 pounds when well fertilized and well cultivated. Grafting may be done at any time within the six weeks before the time the buds open, and the scions may be cut as needed.

Heavy fertilization will produce larger crops, even where blight is serious, and by this means production can be increased until the orchard may be gradually changed to the more resistant varieties.

The most economical method, and the same time the best, is to grow green manure crops and supplement with acid phosphate, or superphosphate as commonly known. Buy acid phosphate that will run 18 to 20 per cent. available phosphoric acid and sow broadcast 10 to 15 pounds per tree at the time the green crop is sowed, or it can

Continued on Page 502.

IRRIGATION
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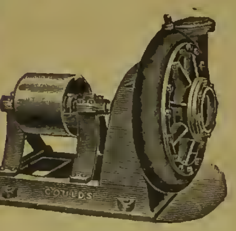

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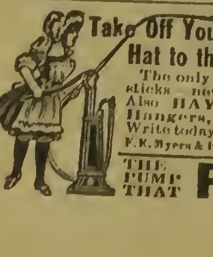

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THE PUMP THAT PUMPS

With the Citrus Growers

WHITE FLY.

Commissioner Jeffrey reports regarding the White Fly, which the force of the commission have been battling for the past year, that it will require a year of constant watchfulness to determine whether the fly will appear again at these points of infestation.

At Marysville three trusted employees of the State are on guard. They are making a plant-to-plant inspection, examining especially all the foliage of the citrus trees that had grown last fall and looking out for all possible food plants not included for defoliation in last summer's order. After these men have thus gone over the whole town two of them will be removed and the foreman of the work left on guard for a year, if any of the flies appear at emergent times. The workmen have all the plats and records of last summer's campaign, and are making a most systematic inspection.

At Oroville the work planned last fall has all been completed. This work included the complete defoliation of twelve full blocks, including and surrounding all the trees upon which the fly had colonized. Whole blocks of fine orange trees now bear only the main trunks to mark the place so recently embowered in orange shade. Outside this twelve-block district every citrus or other food plant has been defoliated or fumigated or removed. This work covered eighty-seven blocks of the city—the entire area with the twelve defoliated squares, making ninety-nine blocks treated during the last two months. As it was impossible to find a single specimen of the fly outside the twelve-block district, it seems fair to say that the pest is now entirely under control. Two men will be on constant watch at Oroville throughout the year. At the Tevis ranch, Bakersfield. Messrs. Carnes and Strong are fumigating for the third time. Our most careful inspector could not find a living fly after the second fumigation, and the present treatment is only to make assurance doubly sure—a good policy where such a peril is to be met. The outlook is most encouraging for the total wiping out of the pest. Six months hence we shall know more positively. If it is done the work will be most remarkable. I have heard of only one case where an insect pest has been wiped out after having once been established. At Liverpool a large field had become infested with the Colorado potato bug. The authorities cut away all verdure and sifted the soil with a fine screen for several inches deep. I wish it were possible to be as thorough in fighting our insect foes without destroying all verdure. Let us hope that care and persistency will utterly destroy the White Fly.

WHITE FLY FUNGUS.

Florida is investigating the use of parasitic fungi in controlling the White Fly and finds now that six species are effective, or at least aid in controlling the pest. In a recent bulletin issued by the experiment station of that State we note that experiments were begun in 1905, with the view of determining whether a recently discovered spore-bearing form belonged to the Brown Fungus or was another species. By transferring spores of the Cinnamon Fungus to culture media in the laboratory, pure growths of the fungus were obtained. Spores from these were transferred to White Fly larvae on orange trees in the greenhouse, with the result that pustules, identical with those from which the growth was first started, were again obtained. During the past summer the Cinnamon Fungus has been introduced at several places into White Fly infected trees by the leaf-pinning method commonly employed for the Red and Brown Fungi. It is to be hoped that the State Horticultural Commission will succeed so well that California will never have occasion to introduce this fungus.

SPEEDY ORANGE TRAINS.

A speed war to see who can land California oranges in Chicago in the shortest possible time is one of the possibilities of the near future in the railroad world.

With from 12,000 to 15,000 cars of citrus fruits still to be shipped East, the next few months, the prize is a big one, and competition is exceedingly keen—much more so than heretofore.

It is said that a combination of the Burlington, Denver and Rio Grande and Salt Lake roads is setting the pace in speed at present.

Gould line officials say they are putting oranges into Chicago on the seventh day from the time of shipment.

Other roads are said to be taking eight days for this service, but it is doubtful if they will remain behind the Salt Lake gateway combination.

"All the roads are making better time than they did a year ago," said one railway official. "They used to take nine days to put oranges into Chicago. Now there is much less westbound traffic and the tracks are comparatively open. If we cannot make good time on citrus fruits now, we never will."

The shippers are now routing their own fruit, whereas a few years ago the transportation companies routed it, which is one reason why competition is keen in giving good service. It is said that recently the Salt Lake road has been getting more of this class of traffic than it did earlier in the season, when the Santa Fé and the Southern Pacific took almost all of it, dividing the business about equally.—L. A. Express.

We are astounded that any orange grower in this State would be so idiotic or criminal as to take into his orchard or community orange boxes from the infected White Fly district of Butte county. The man's name is given by the Lindsay Gazette as F. E. Harding, of Naranjo, Tulare county, in Central California. He bought 1000 boxes in Butte county, where the White Fly of Florida was discovered and vigorously fought last year, and had them shipped to Lemon Cove, the nearest point on the railroad. A storm was aroused when the orange growers heard of his action, but the boxes had been hauled to Mr. Harding's packing house, and he refused to burn them. He later thought better of his action and burned the whole outfit and fumigated his packing house. But if there were any living White Flies in the consignment it will cost the growers of that section hundreds of thousands of dollars.—Redlands Citrograph.

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neral Agriculture

TION ON THE FARM.

HE present time we find the majority of the young ie brought up on our farms .ve the country for the city ɪarly age, writes Mary Jud- ı, Instructor in Domestic ʼolorado Agricultural Col-

'e many reasons for this dis- the part of the young peo- hing is that they do not ıuch amusement or recrea- ey should. In reality, they 'ork and no play.

are a great many good h for outdoors and in the ch can be played with a of enjoyment.

standbys of croquet and always give the players ı. Tether tennis is a quiet .ble game. A tennis ball is o a long string and hung top of a long pole. Two ve tennis rackets, or flat n be used. They try to ball and string around the trying to wind it one way other winds it in the other

the ball is wound around t counts one for the person ıd it around the pole. This xciting and very good exer-

good game for boys and Boston Ball." This game is ry much the same as base- ad of the baseball a large, s used. This ball is pitched e who bats in baseball past vho pitches in baseball with rules. Of course the one n of the pitcher of baseball catch it. If he doesn't, it e same as if the ball had This is very vigorous ex- ıt girls can play it much ın baseball.

y, cutting of leather, carv- ood and many other indus- are very pleasant and also amusements. The differ- can be worked at in the out of doors, therefore, are ong winter evenings, as also s, magazines, games, etc.

parents would enter into dren's play and sympathize ır joys as well as their sor- y will find that their child- not be so anxious to leave r the crowded cities.

TTER FARM HOMES.

he value of any farm lies in e for the family.

are those who believe that fort of the wife and mother ural home is of more conse- than the adding of many

new country the one absorb- tion of the settler is to make it somehow or other; to get g to eat and squeese out of money enough to make the y cash payments. Often, he ied with any kind of a shack. tion is not only the border of for himself but for his family There is no contention here such a case the farmer should ebt for the modern home or ve much time to consider such

ıg become accustomed to dep- s as regards a home, it is ıtural that the conveniences of a home should be deferred much longer than the growing prosperity of the farmer would warrant. There are farmers in the Pacific northwest today who have no possible excuse for the inconvenient, uncomfortable, restricted and generally miserable dwellings on their otherwise fine farms.

It is time to think of these things. It is time to act upon them.

It is not to be denied that there are many fine farm homes in the Pacific northwest; that more and more are being built every year; that the spirit of progress is abroad in the land.

There is no way by which readers can help themselves, their neighbors, or aid in the development of the country more effectively than by going into this campaign for better farm homes.—Spokesman Review.

LATENT LIFE OF SEEDS.

In a paper before the European Scientific Society we note the following summary of the results of a prolonged study of a large number of species of seeds.

The author found that the integument of some seeds after a certain amount of drying became impermeable, so that the seeds exhibited no swelling even after a lapse of two years. Under the prolonged action of water or water vapor the integument of most seeds becomes permeable, allowing gases to comply with the usual laws of diffusion. Alcohol, ether, chloroform and acids had no effect on the vitality of the seeds so long as the seed coats remained impermeable. When subjected to the extremely low temperatures of liquid air the influence of this medium was proportional to the amount of water in the seeds. Tests of old seeds showed that they did not retain their vitality indefinitely.

The gaseous exchange in seeds kept in the dark for a month or two was reduced to a minimum. On the contrary, it was considerably increased in seeds kept in the light. The permeability of the seed coats and the proportion of dehydration of the seed was also found to influence it. The exchange of gases in latent seeds is said to be due to simple chemical oxidation, and it can be entirely suspended for a time without destroying the germinative power of the seed. The dehydration of the seed was found essential to prolonged vitality.

The author was unable to determine whether anaerobic life in seeds is due to an actual suspension of the power of assimilation on the part of the protoplasm or whether the protoplasm and nucleus of the cell are nourished by the reserve material of the phenomena of life carried on, but in a very greatly reduced degree.

INTEREST THE BOY.

If the boy can be interested in his work—made to feel that he is a farmer, not a slaveboy, there will be less desire to leave the farm. When he is older, aside from his practical agricultural education, give him an opportunity to learn enough geology to interest him in the soil in which he works, enough botany to enable him to appreciate the beauties of plant life around him, enough zoology to excite his curiosity as to the developments of species and breeds. This will give him a love for his profession and he will be not "The Man with the Hoe" but the Farmer.—Farm,

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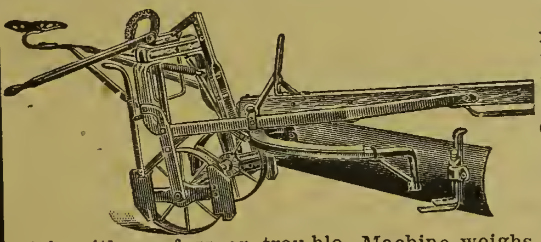

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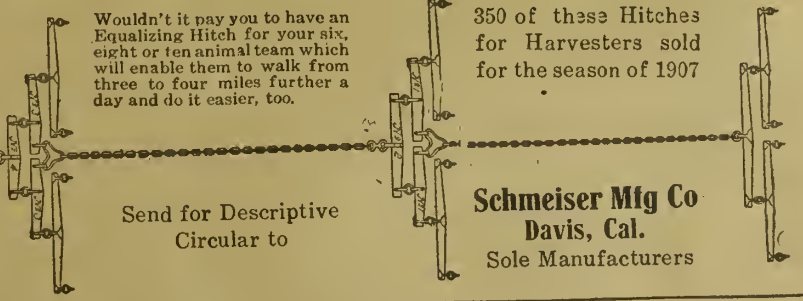

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W. Herbert Samson, Prop.

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Phone Sunset Red 92

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Deciduous Fruit Cultu

PREVENTING APPLE SCAB.

Every apple grower is interested in learning everything that might be of help to him in fighting this enemy. Formerly most of the diseases of fruits were supposed to be inevitable and no effort was made to prevent the losses produced by them. In late years spraying has been found to be almost a panacea for all the ills that afflict these crops. The orchardist begins to spray in spring and continues operation throughout the season. The discriminating buyer refuses to look at an orchard of either peaches or apples where the ground is not cultivated and the orchard sprayed.

It has been found that spraying is a good way to fight the apple scab and that every effort should be made to subdue it by this means for it not only mars the appearance of the apple, but it produces a secondary disease which attacks the tissues of the fruit, producing a species of rot. A graduate of the Michigan Agricultural College working at the Geneva Station discovered that a purplish rot begins under the scabby spot of the apple and spreads throughout its entire bulk.

The rot is produced by the fungus called by scientists cephalothecium roseum, which is very bad in wet years. No remedy has yet been found for this rot, so prevention must be depended on to take the place of a cure.

If by frequent spraying the scab is prevented the rot will not manifest itself. Thus a new emphasis is laid upon the necessity of frequent and judicious spraying of apple orchards. Experiments were conducted by the Michigan Experiment Station to test fumigation and application of antiseptics as cures for the rot, but the great hope lies in spraying.

A further prevention of scab on apples is found to be raking up the leaves in late autumn and burning them. It has been found that the spores of the scab winter over in these leaves and infect the limbs of the trees therefrom, hence the benefit of raking up the leaves.

The importance of cleanliness in the orchard is emphasized in a recent bulletin issued by the Idaho Experiment Station. Scab had affected the orchard investigated so badly that there was practically no commercial fruit grown the year preceding the one in which the experiment was carried on. At the close of that season the owner had buried all the culls deeply in the earth, had burned up all the leaves and the following season cultivated the orchard and sprayed part of the trees, others being left unsprayed as check. The close of the season witnessed a marvelous change from preceding one, even the unsprayed trees showing little scab. Referring to this the bulletin says, after referring to the fact that the weather conditions were favorable to the fruit and unfavorable to the development of the disease:

The second cause for so little scab in this orchard we cannot but think due to the splendid care it received from its owner. Not only all rotten and gnarled fruit, but all infested leaves, were carefully burned or buried. I firmly believe that more can be accomplished by carefully disposing of this rubbish in the fall, and thus
obliterating the main source
tion, than by the more tedi
costly method of preventi
spread of the disease by spra
consider that the care given
chard in the matter of cleanin
plowing under rubbish, old fr
leaves, followed by good clea
vation, has as much to do w
suppression of scab as has s

With such treatment as thi
gard to the value of effort
in the line of prevention, there
be no doubt in the mind of an
grower that spraying and cle
are the two factors which w
him to produce perfect fruit

GRAFTING THE WALNU

Continued from fir

be sowed just before
time. The object bein
phosphate as deep as p
ground.

Walnut orchards have
care that has been given
neither in selection of v
in culture and fertilizat
soil. It is possible that
may cause growers to use b
ods of culture as well as s
varieties and in the end b
of largely increasing the
and value of walnut groves

The largest annual pro
walnuts was 8000 tons, b
creased planting this has
until the production is on
7500 tons per year. Indiv
that produce 200 pounds p
not uncommon, so it can
seen that if only the bes
used for propagating, the y
nut orchards can be greatl
without much additional e
the profits be correspondin

It is very probable th
walnuts will become as
seedling oranges are at pr
fact, there is no good r
they should not be entir
by the better grafted var
markets demand the bes
fruits and seedling walnu
tually be left without fr
Neff, Anaheim.

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Buckley & Co. of San Fr
fering, for the first time
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ought to be a guarantee
the claim will be made

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The Lawrence-Williams Co., Cl

gation and Forestry

G STANDS BY ITSELF.

sumption and waste of our ;ources is proceeding apace. ver efforts have been made this situation, difficulties ·n from the facts that the of one community are af- the actions of another over ıas no control, that the ɔn of one form of natural ıvolves the protection of d that none can be man- ·pendently of others. Ef- tion has been blocked be- re has been nobody broad formulate a plan sufficient- ·hensive.

a body is now provided by the ·nce on the conservation of l resources, which the Presi- as called to meet him in the House on May 13, 14 and 15. :onference will represent every f the country, and all the y's needs. By direct personal contact, the members will be able to come to an understanding of the various inter-related problems and of what will be required of each part of the country to make a general scheme possible.

THE MESSAGE.

We have made a beginning in forest preservation, but only a beginning. The country is unquestionably on the wave of a timber famine. The only trouble with the movemnt for the preservation of our forests is that it has not gone nearly far enough, and was not begun soon enough. It is a most fortunate thing, however, that we began it when we did. We should acquire in the Appalachian and White Mountain regions all the forest lands that it is possible to acquire for the use of the Nation. These lands, because they form a National asset, are as emphatically National as the rivers which they feed, and which flow through so many States before they reach the ocean.

—Theodore Roosevelt.

owing Artesian Well on W. Simpson Property in Antelope Valley

The well, an illustration of which appears on this page, shows that ·er in certain localities in the Antelope Valley can be developed and ·emarkably low expense. The newest well sunk by R. Benedict on holdings of W. Simpson has aroused enthusiasm and great interest ong land owners all over the valley. The well, which is flowing over ·y inches and when allowed to run has the appearance of a rushing ·am, is only one of the many to be found in these parts and which attracting the attention of capitalists from all parts of the country o see that by developing the water (the one thing required) it is sible to cultivate in the valley almost anything that can be raised any part of California at the same altitude. Many contracts for lls are under consideration by reason of this latest development. e Simpson well was drilled at a very moderate cost, the flow being ·ured at a depth of 240 feet, and flows 60 inches.

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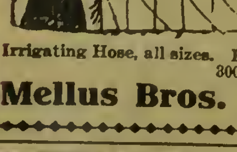

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J. B Wagner
The Berry and Rhubarb Specialist Pasadena, California

The Vegetable Garc

SELECTING THE STRAWBERRY PLANTS.

To begin with. plants for setting should never be selected from an old strawberry plantation. Those for planting this spring or next fall should be taken from runners which have been produced last summer on plants set last spring. The prevalent custom of taking plants from an old strawberry plantation is the cause of more failures, perhaps, than any other mistake in the growing of strawberries. Every year that a plantation grows the individual plants become weaker and weaker. They get crowded by rooting down runners every year and become devitalized in their struggle for room. Weeds, grasses and other plants become more and more abundant in the plantation every year that it stands. Again, the older the plantation, the more difficult it is to give the right kind of cultivation on account of the new runners that are rooted down. As an example of this, during the past year we had a four-year-old strawberry plantation on the Missouri Experiment Station grounds. The plants during this year were so badly attacked by rust that nearly all of them actually died soon after the fruiting season. New runners that were put down by the surviving plants were small, weak and slender; a very poor stand of plants, with practically no hope of a crop from them was the result. Nevertheless this bed was renovated as soon after the fruiting season as possible, and given the best of cultivation during the summer. We wanted to see what would happen to an old bed that is kept a long time in one place.

The casual observer would say of this old bed that it is of varieties which have so great a tendency to rust that they ought not to be planted. However, a new bed, set with strong plants of the same varieties last spring has made magnificent growth in the same kind of soil, and as a result has produced an elegant stand of plants that show no tendency to rust. The fact that the old bed rusted is not due to the varieties; it is due to the fact that the plants had become so crowded and weakened that they were not able to resist the rust, while the young, vigorous plants of the same varieties, freshly set, have resisted rust almost perfectly.

Plants should be taken, then, from a new patch which has never fruited. The strongest plants should be selected before transplanting. These should have a thick, stout crown, not smaller than a lead pencil, and as much larger as possible; the leaves should be thick-stemmed, stout and vigorous. The roots should be of that light yellow or white color customary to new plants and should show none of the old, dark, black, wiry-looking roots which occur on old plants. The center of each crown should show a tendency to produce new leaves in abundance. Such plants will produce vigorous runners next summer. They will insure an abundant crop next season, providing they are well cared for.

Under ordinary conditions, it will pay the strawberry grower to put out a small plantation each year for the sake of growing his own plants The strongest, most vigorous plants should be selected for this purpose and they should be given the best of
cultivation throughout th
and when they have made
matted row, so that the pl
from four to six inches a
runners should then be c
that no more plants will b
Runners should never be a
root down so abundantly t
will crowd each other. Ne
grown in this way from
which never fruited wi
more productive than t os
are taken from the beari g

In setting, the ground sh
thoroughly prepared by p ow
and harrowing thoroughly,
fully pulverize and settle t
The young plants should be
ly. Setting the plants a
an inch too deep, so that
are covered with dirt at t
the leaves, is fatal to the
in this way, they will rot
On the other hand, they
be set shallow enough so
bases of the roots will be
the air.—J. C. Whitten,
Missouri Horticultural S

ASPARAGUS.

The kitchen garden ca
greater addition than a
paragus, and in most sec
State it is not so late but
ings may still be made,
Paddock, Professor of Bo
rado Agricultural College

A deep, loamy soil is b
to asparagus culture, an
scarcely be made too rich
dition of well rotted stab
The manure should be
spaded in deeply and the
the best of tilth. After th
has been thoroughly prepar
rows are made, preferably
north and south, and four f
The plants are set from
four feet apart in the row
ing upon the richness of
and from four to six inches
general level of the gro
plants should not be cover
full depth at once, as ma
young shoots would not
enough to push through t
face of the ground. On
trary, cover the crowns
three inches of soil and
rest gradually by cultiva
the summer.

Keep the ground w
and irrigated during the
as soon as the tops ripen
they should be cut and bur
low this by giving the he
coating of manure, which
worked into the soil in th
The subsequent treatment
will be much the same as
for the first season. N
should be cut for use until
season after planting, and
not until the fourth.

By taking pains to start
right it should last at lea
years. While the outlay wi
it is difficult to imagine
feature of the garden that wi
more satisfaction.

WHAT HE WANTED.

A very bald-headed man we
the barber shop in the Amer
House in our town, and, plumping
self down in the chair, said:

"Hair-cut!"

Ed, the barber, looked at him a
ment, and replied:

"Why, man, you don't need no
cut—what you want is a shine"

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:ed in moss. Prepaid to
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$10.
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ER ST. SANTA CRUZ, CAL.

The Ornamental Garden

SHADE TREES.

CLOSELY related to our immediate needs is the choice of trees for shade and ornament. In this field, the eucalypts cut a wide swath. Here in California the taste of our people, rightly or wrongly, inclines toward evergreen rather than deciduous trees for ornament. Moreover, with characteristic Western impatience and desire for immediate results, we demand trees of rapid growth. Both of these requirements are met by the eucalypts. Among evergreens no family of trees is better adapted to our climate, and none furnishes examples of more rapid growth. When we remember, in addition, that by the judicious selection of different species for different purposes these requirments can be satisfied without any undue sacrifice of our ideals of beauty and utility, it really seems almost as though nature had designed the eucalyptus expressly to meet the exigencies of our climate and of our characteristic temperament.

Good in Its Place.

Almost all of the large growing eucalyptus will make good shade trees. For roadside planting the blue gum (E. globulus) is excellent. The commonly expressed contempt for this tree arises mainly from familiarity with neglected specimens, and cannot be taken as in any way a measure of its intrinsic beauty and usefulness.

No one who has looked with observant eyes along a well planted and well grown avenue of blue gums, their tall, straight stems and ample crowns of dark, drooping foliage framing a vista of distant purple mountain, will readily forget the fine effect of those twin lines vanishing in perspective, nor will he ever again speak slightingly of the blue gum as an avenue tree. In groups, large or small, the blue gum is no less effective, its dense foliage lending itself admirably to the production of heavy masses of somber green which contrast delightfully with the general coloring of our valley and foothill landscapes, especialy in fall time. The depth and variety of tone in such a mass of blue gums under the declining sun is wonderful.

Tropical Effect.

The beautiful glaucous blue of the young leaves is excellent for producing tropical effects in gardening, and young trees of this species are used extensively for this purpose in Europe, being replaced by new ones yearly. The tree stands pollarding well, and when once established will endure cheerfully any amount of ill usage. It has no liking, it is true, for cement sidewalks, which it has an inconvenient habit of disrupting. In fact, city streets are as little suited to it as they are to the genuine farmer. Like the farmer, it belongs in the free, open country, and there it is one of the most all round useful trees ever introduced into California.

But the blue gum is only one, though the best known, of a numerous sisterhood, and there is scope enough among the different species of eucalyptus for the exercise of even a fastidious taste in the choice of trees for ornamental planting.

Men with an agricultural education alter cases.

AMARYLLIS.

The climate of California is admirably adapted for the outdoor cultúre of the Amaryllis, which can be brought to maturity from seeds or divisions in much less time and at a mere fraction of the expense that is needed to grow them under glass in colder latitudes.

There are about 40 species of Hippeastrum, all native to tropical America, but only seven or eight of the most showy ones are generally cultivated. Some of these, such as H. pardinum and H. Leopoldi naturally have blooms seven or more inches across, others expand from four to six inches, so that hybrids bearing flowers nearly or quite a foot in diameter do not appear astonishing, in view of the results obtained during the last 100 years by European fanciers. The centers of interest in these showy blooms have been Belgium and England, where show varieties of the greatest perfection have long been raised. Some of these increase but slowly, and are held at comparatively high prices, $25 to $30 being frequently demanded for a single bulb; others in time becoming sufficiently numerous to be offered at reasonable rates. The effort is to develop flowers of symmetrical form and good habit as well as of great size and rich coloring. Raisers are particularly anxious to get rid of the green centers so characteristic of many species, and which persistently crop up in their otherwise charming offspring.

TWO AMERICAN SUNDIALS.

In America the sundial is not as common, perhaps, except in old-fashioned gardens, as it might be. But there are some beautiful ones, and the fashion of them seems to be coming in again. At any rate, two of the most noble of all dial mottoes have been written by American authors. Henry Van Dyke and John G. Whittier. Van Dyke's, on a dial in the Trask rose garden, at Saratoga, runs:

"Time is
Too slow for those who wait,
Too swift for those who fear,
Too long for those who grieve,
Too short for those who rejoice;
But for those who love,
Time is
Eternity."

Whittier's lines, written for his friend Dr. Bowditch and first used on a silver dial, have since been inscribed on the great dial over the entrance to Mount Auburn.

"With warning hand I mark time's rapid flight,
From life's glad morning to its solemn night;
Yet, through the dear God's love, I also show
There's light above me by the shade below."

LAWNS.

A nice lawn by a dwelling is one of the most refreshing things the eye can rest on during the long, hot summer days, and this is a good time to lay it out. The best success demands rich mellow soil, well pulverized, and it is needless to think of a lawn of the finest grasses without plenty of water to sprinkle during the hot summer days. Bermuda grass makes a fair-looking lawn during a portion of the year, and will do with little water. Sprinkling every day during the hot summer months gives good results and will well repay the effort.

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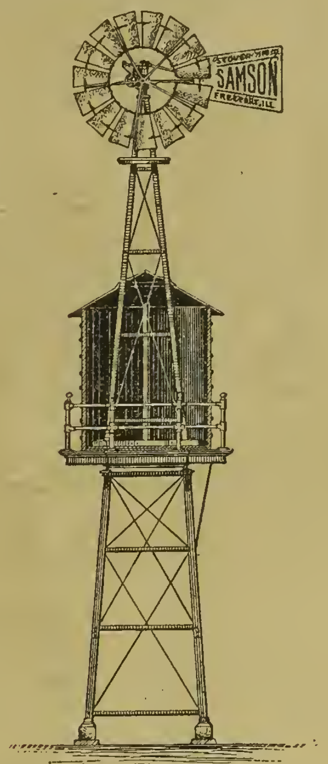

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STATE FRUIT GROWERS IN SESSION.

"I should like to live a few hundred years from now and see some of the improvements which you fruit growers will make in the fruits of that time. The world will then be favored with delicious fruits of which we cannot now conceive" remarked David Starr Jordan before the State Fruit Growers' Convention at Riverside Tuesday morning. He spoke of the great advancement accomplished by the scientific production of fruits and that each year shows finer flavored, more attractive looking and generally higher grade fruit.

Such advancement is encouraged by just such conventions as is now in session. The attendance on the first day, as this is written, is not up to the expectations. However, many are coming on each train and before these words are in type, Riverside streets will have a liberal showing of the white badges, which the local committee has provided. The local committee has done good work and has complete arrangements for comfort of the attendants.

Horticultural commissioners from all parts of the State are present. They will also hold interesting sessions.

The Cultivator pencil is busy and next week, and probably thereafter, a lot of good things from the discussion and papers will make good reading for the Cultivator family.

Next week alone will have several pages of valuable pointers from the convention.

California is now the third State in the Union in the production of beet sugar, Colorado and Michigan taking the honors over us. But with our possibilities fully developed it need not be many years until California wins honors at the head of the column.

GIVING THE FARMER A SQUARE DEAL.

In Los Angeles county the Assessor is instructed by the Supervisor to assess fruit trees according to their age. For instance, an assessment on apricot trees four years and older shall be 25 cents each. Citrus trees four years old, 25 cents each; if they are five years and over, 35 cents each. Walnut trees four to eight years, $2.00 per tree.

State Commissioner Jeffery, who was formerly a member of the Los Angeles County Commission, calls attention to this tax which is unjust, and further calls attention to the fact that during the year 1906-07, the Supervisors allowed their Horticultural Commissioner the total of $59.00 for protecting these trees which were assessed at the rate of $25 and $50 per acre. Mr. Jeffery says: "What a farce!" Here the farmers are forced to pay an immense sum into the county treasury for the privilege of improving their land with trees and but $59.00 of this is given back to them in protection that makes it possible to grow trees at all.

Los Angeles county is used only as an example, for we assume productive interests in other counties of this State are treated as unjustly as the fruit growers of this county. It surely is rank injustice from start to finish, the manner in which our tax system puts the greater burden of supporting the State upon the farmer. Look at the assessment blank which every taxpayer makes out and files with the County Assessor. The merchant who conducts a business of thousands of dollars a month, lumps off his great stock of goods in one item, with possibly office fixtures and a few incidentals thrown in, but the farmer has his realty in the open, where it is assessed well up to its full value, after which he must itemize every tree and list every horse, colt, cow, calf, hog, and even poultry as well as every harness hanging on his pegs, cultivator, plows, and every appliance on the farm. We hope that some day the farmer will rise up and demand more just treatment; and when he demands it he will get it.

IT RAINED.

The month of March was the dryest that the State has had in 31 years, and the greater part of April passed and still no rain, and in some sections drying winds came and aided in removing much of the moisture from the parching earth. When the rain did come, many asked: "Is it in time to be of value to the farmer?" and investigation goes to show that it was in time to do vast good and no damage excepting in a very few cases where some hay was possibly injured. In some cases the rain gauges show a precipitation of about one inch, though in the higher watersheds the fall of rain and snow will be much greater and add greatly to the irrigation supply of the coming summer. In other sections the precipitation was as low as one-eighth of an inch, but as small as it was, it was most thankfully received by the ranchers.

DIFFERENT IN CALIFORNIA.

One of the sailor boys from the batleship fleet remarked that the reception given to them since arriving in this State was vastly different from anything they had ever received before. As a matter of fact, the towns have all been thrown wide open to the visitors from the fleet; even the ordinary seaman if in uniform being granted the freedom of the cities in every sense. No fare has been needed on the street cars, and all theaters are at their service.

The young man referred to said that in the east the theaters were not free to them as here, and still more, he remarked that they were often not permitted to enter at any price. "Here we have been treated like men."

This treatment was not used by the boys as a basis of imposing upon residents, for the young men showed themselves worthy of it and were manly in every way. Of course, under such conditions a jolly good time was had and good nature prevailed. In one instance we saw where a bunch of them, perhaps between 50 and 75, had taken possession of a car and three-fourths of the number had gone to the "upper deck" and were seeing the sights from the car top. This, of course, would not be tolerated with men of the city.

If the Atlantic Coast would grant some of the courtesies which this Sta doing, it is possible a more manly set fellows would be induced to join our was formerly the case.

MAKING HASTE SLOWLY.

The long delay in issuing the proc the National Irrigation Congress, held mento last September causes the Redl rograph and some others to sizzle unde lar. The Citrograph says:

> "This is a disgrace which falls up mento, but reflects upon the whole Stat who accepted Sacramento's word of h she would make good in her obligatic writer was one of the hard workers shouters for Sacramento, and keenly humiliation consequent upon Sacramentc to keep her pledged word."

This is a little severe, perhaps; yet value such proceedings should be in pri as soon after the convention as poss rangements are now under way for th congress to be held at Albuquerque ber and if Sacramento does not wak Albuquerque Congress will be on the fore the proceedings of the old cong the hands of the people.

The old mining ditches of the Sierr Mountains are gradually being made greater value than ever they were in old mining days. These rights are be ferred to irrigation districts and in washing the gold from the soil directl now by giving the wealth in the form

Shop Talk

THE CULTIVATOR has had many r books devoted to "Poultry for Profit," a ply this demand we have endeavored gether some publications by good auth the various subjects of poultry raising.

It is our aim to assist our readers to as they may desire at reasonable price now are able to send them with the CULT at such figures as will make them very Every one interested should take adva the offer.

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ricultural Notes of the Pacific Coast

thern California

ounty farmers are already fallowing.

damage to fruit was done in borhood of Cottonwood from

and refrigerating machinery niversity Farm has been re-

ine shorthorns have been pur- y the Howard Estate and by e at Newman.

olo County Democrat says apricot crop of Yolo county "bumper" one.

acaville Reporter says that blight remedy manufactured city is proving effective.

omona Grange met at Santa cently and conferred the de- Pomona in the amplified form.

nen, who have been driven e higher lands by the dry are looking for pasturage e Sacramento bottoms.

Chico Driving Club has ar- for races to be held July 2d which will be the opening r their new "speedway."

of the farmers of Sacramento are beginning harvesting of even foxtail being cut to add eed for the coming season.

Eakle, Jr., of Woodland has a bunch of exceptionally fine ibred shorthorns, which will d on his stock ranch at Wood-

ruit outlook in Yolo county is er than expected some weeks l the recent rainfall is expect- e of great benefit to the or-

Horticultural Commissioner recently appeared before the sioners of Butte county in the of more thorough work fruit pest.

ge growers at Oroville are con- hat the campaign of the State ltural Commission against the ly will succeed in completely ting that pest.

Alta, California, Beet Sugar ny has changed its name to the ento Valley Beet Sugar Com- All officers and stockholders main the same.

Sacramento Valley newspapers hat the proposed abandonment navy yard at Mare Island is ecessary entirely by the work hydraulic miner.

meeting of the Sonoma County rative Poultry Association re- the number of directors was d from five to three. The di- are now Messrs. Gillett, Wil- d Ma.

county's output of grain for t season was six hundred thou- ags. The year before it was undred thousand bags, and the te for this year's output is that l be between the figures for two years.

creamery at Woodland has an of about 1700 pounds daily, is about 300 pounds short of f two years ago. This is not an ion of a decrease in the dairy ry so much as increase in de- for fresh milk.

Central California

Peaches promise a heavy year at Turlock.

One field of 125 acres of celery has been planted at Turlock.

Many new trails are being opened in the Monterey Forest Reserve.

Kerman will grow a larger acreage of cantaloupes than she has in the past.

The prospects of the Corcoran asparagus farms are continually brightening.

One Tulare county man will take $1500 an acre off from his orange orchard.

Contractors at Turlock are signing up melon growers for the coming season's pack.

The late frost did much damage to the apricot crop in the neighborhood of Hollister.

The early potato crop in the vicinity of Turlock promises to be exceptionally large.

Several hundred carloads of last year's prunes still remain in San José ready for shipment.

The cannery at Hanford has been putting up asparagus from the Corcoran asparagus farms.

One apricot orchard of 1800 trees at Hollister lost practically its entire crop from the late frost.

The cannery and the vinegar works at Watsonville have been refitted for the coming season's pack.

Turlock is continuing its rabbit drives, and succeeds in slaughtering a great number of the bunnies.

The Parajo Valley says that the prospects were never more favorable for a big yield of apples and berries.

Apricot orchards about Corralitos and throughout the Green Valley promise the greatest output in years.

Unless the coming prune crop drops far more than ordinarily the output will be larger than the average year.

A three-day forest fire burned itself out in the Boulder Creek section near Santa Cruz and did much damage.

Feed and grain have suffered from the extremely warm weather and the dry condition of the soil all over the valley.

A car of orange trees shipped into Visalia containing soft orange scale were fumigated before being permitted to unload.

The Salinas creamery has been running to its fullest capacity this season. It produces about 2000 pounds of butter per day.

Santa Clara Valley Poultry & Pet Stock Association has forged ahead this year and is planning for a great show next fall.

The strawberry packing houses at Watsonville are equipped with crates and appliances for the greatest output ever from that section.

The local Farmers' Union at Riverbend recently received 42 members in one evening. It has only been organized about one month.

The farmers near Crow's Landing have made another contract with the "rainmaker," by which they agreed to pay him $3000 if he "produces" 12 inches of rainfall between November 1, 1908, and April 15, 1909.

Southern California

Almost 13,000 acres of beets have been planted in and near Oxnard.

Anaheim has a sugar beet weighing 30 pounds and is three feet long.

The Imperial Standard says that the agricultural college is a sure feature of Heber.

By recent decision of the Land Office Imperial lands may now be subdivided and sold.

The Irvine Ranch at Santa Ana has just completed the planting of 100 acres of asparagus.

Placentia is following the example of Pomona and is making a hot fight after the orange thieves.

Imperial valley has a new irrigation company in the Alamo Irrigation Company with a capital of $1,000,000.

Cannery men are investigating conditions in the Imperial valley with expectation of establishing a cannery.

The Oxnard beet crop is far enough advanced that it is declared that rain or shine there will be a good beet crop.

A bond issue of $625,000 is recommended by the Highway Commission of San Bernardino county for a system of roads.

Some alfalfa, which had been cut, was damaged by the recent rain, but the benefits vastly overshadowed any damage.

It is expected that practically all the representative orchardists of Southern California will gather in Riverside next week.

The Whittier cabbage growers are pleased with the outlook for cabbage for next season. The tomato crop is not so satisfactory.

Santa Ana is again taking up the matter of the sugar factory, and the "Bulletin" predicts that before long actual work will begin.

Coachella valley's output of onions this year will aggregate 225 cars, which is expected will be divided amongst the growers.

Hope for a big grain crop in Southern California has been abandoned and hay is advancing rapidly in price on account of dry spring.

The action of the President in creating a Forest Reserve in the Owens river valley, is received with universal approval over Southern California.

The 80-acre ostrich farm of the Cawston Company at Fullerton has become too valuable for ostrich raising and has been sold for fruit ranches.

The cantaloupe growers of Imperial valley are discussing the labor situation with no little concern. The immense output this year will tax the capacities to market the fruit. White men will be given the preference, if a great enough number can be secured.

The showers over the southern part of the State were exceedingly beneficial, though the wish generally expressed was that they had come two weeks earlier. The precipitation varied from a quarter of an inch to a good full inch in some sections. In most of the higher foothill regions one inch was precipitated, and in the higher water sheds where the irrigation systems mostly secure their supply, it was considerably greater.

The Coast

Wool of the new clip is now arriving in the Phoenix market.

A two-year-old Shire colt at Corvallis, Ore., weighs 1760 pounds.

Home grown potatoes are selling in Tacoma, Wash., at $16.00 per ton.

The Farmers' Co-Operative Association recently formed an organization at Pueblo, Colo.

The fruit growers at Lewiston, Idaho, have suffered severe losses from frost damage.

Prime steers are selling at Seattle, Wash., at prices higher than have been prevailing for four years.

Fruit growers in the neighborhood of Lemoore report practically no damage to fruit by frost in that section.

The next meeting of the Oregon Dairymen's Association will be held in Salem December tenth and eleventh.

The Oregon Railroad and Navigation Company will offer $100 for the best half acre of corn grown along its lines.

The pack of salmon along the Columbia river it is estimated, will amount to over 1,000,000 cases this season.

The opening of the Oregon Basin in Western Wyoming will throw open to settlement 250,000 acres of fine farming land.

Southern California strawberries are being reecived at Portland, Ore., and are commanding from $3.00 to $3.50 per crate.

The Washington State Fair grounds at north Tacoma were recently visited by fire and many of the stock sheds destroyed.

The farmers of Williamette, Ore., are beginning to use extensively cover crops for improving the soil of their apple orchards.

The extreme drouth at Pendleton, Ore., has endangered a large number of sheep on pasture, but only a few sheep were lost.

The Spokesman Review of Spokane estimates that the fruit output of the "Great Inland Empire" will ultimately total a value of $60,000,000.

The papers of Arizona are booming the orange industry and claim that orange growers for this season made some exceptionally good sales.

The Farmers' Union at Davenport, Wash., is receiving many new members. It has on hand now requests for 130,000 grain sacks for the coming grain crop.

The Northwest Grain Congress to be held in connection with the Spokane Fair next fall, has been receiving the support of the more advanced farmers of the Northwest.

The Hood River Apple Union at its recent meeting voted to increase its capital stock from $2000 to $25,000, the increased capital to be used in erecting a cold storage warehouse.

Colorado produces the greatest amount of beet sugar of any State in the Union, its total output last year being 422,732,530 pounds. California is third with 164,000,000 pounds.

The grain growers in the neighborhood of Walla Walla, Wash, report that the spring wheat is coming up exceedingly fine and with a strong stand. An unusual amount of land has been sown to spring wheat.

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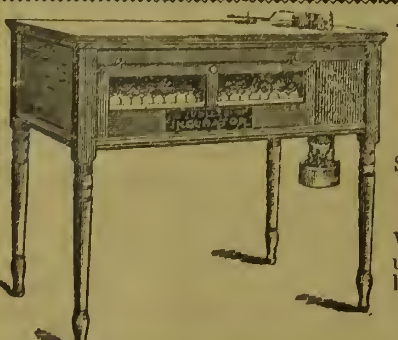

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Profit in the Poultry Y

We solicit short articles of a practical nature from the fancier breeder, giving their experiences with poultry. All inquiries pertainin management, disease and its prevention will be answered through thes

PROFIT WINNERS.

A day or two ago I was talking with a man who had visited the poultry producing sections in and around Petaluma. He had been very much impressed with the outlook for poultry in that section, but remarked that at the present time in all parts of California except Petaluma the majority of stock was produced by the farmer or rancher.

The great bulk of our poultry and eggs is produced on the farm, and under conditions that would in ordinary circumstances make the receipts practically all profit. And while this is true, yet there are many flocks that do not net their owner a cent profit during the year.

Cost of a Hen's Keep.

No hen is a success that does not yield her owner over a $1.00 per year. If we buy our feed we will find that it will cost us annually from $1.00 to $1.25 per head to keep our birds. A first class well bred hen will show a profit of $1.25 and there are flocks that are returning a profit of $3.00 per head. These, of course, are thoroughbreds and have been carefully selected for their laying qualities. But will only do so under the right conditions, which are embodied in the following rules:

First, good, healthy, fullblooded stock.

Second, constant, unvarying care.

Third, a variety of clean egg-producing food.

Fourth, clean water; clean houses and runs.

Fifth, plenty of grit and oyster shell.

For Profit.

Nearly any thoroughbred fowl will do well and return a profit, if properly cared for, I don't advocate fine feathers alone. The general utility fowl is the one for the farmer, and any quick maturing bird from a good laying strain is of the greatest importance, for it is the egg yield that gives us most profit. The poultry is a helpful adjunct, but it is the constant stream of eggs that is the money bringer.

Ordinary poultry keeping on the farm includes, almost universally, the maintenance of a flock of laying hens, varying in numbers from a few dozen to several hundreds. But on most farms no special attention is given to the production of eggs for the season of scarcity and periods of high prices.

Increase It.

The profits from such a ranch may in nearly all cases be much increased by keeping better stock, by carefully culling out the non-layers, and breeding only from the best layers, and under no circumstances breed from weak or immature stock.

A hen may be considered to consume one bushel of grain yearly and lay ten dozen or fifteen pounds of eggs. This is equivalent to saying three and one-tenth pounds of corn will produce, when fed to a hen, five-sixths of a pound of eggs; but five-sixths of a pound of pork requires about five pounds of corn for its production. Taking into account the nutriment in each, and the comparative prices of the two on an average, the pork is about three times as costly a food as eggs. There pay better to feed was fowls than to pigs, if not both.

AROUND THE Y

We would suggest th sold by the pound. Why

* * *

The only medicine flocks need is a good supp

* * *

When saving eggs for move the male bird from

* * *

Try to raise a larger the chicks you hatch this ever before.

* * *

Always have your ro able and apply kerosene on under side once a w

* * *

An egg is something readily absorbs odors, the them in a clean, sweet

* * *

Turkeys are naturally destroyers as well as fora should have a good range profitable.

* * *

A dozen hen's eggs will weight about 22½ our weights generally running 24 ounces.

* * *

Turkey Feed.

Please state through the if turkey hens will lay as there are no gobblers with people think they will not one has gobblers with then do not know would like formed.—A Subscriber, Tu

It is not necessary to ke or gobbler with your hens them to lay. But your egg be fertile unless you do. you can remove your Tom the hens begin to lay a clutch of eggs will be ferti

The best feed for young For first week feed hard chopped fine, including sh might be added a little pe other good food is milk little chopped lettuce and plenty of fine grit, un about two weeks old. Aft good chick food, also fee on corn bread. Do not tu fellows out when the gras

---

POULTRY MANUR

From time to time qu garding poultry manure ar and they include such to preservation, value, use an Just now, during the wi the preservation is of fi ance.

As is well known, wh try droppings accumulate roosts and when they are rels, there is a strong od monia noticeable. The de of such an odor is a sure gaseous ammonia is escapin air to be lost for the pres to prevent such a loss is the development of the odor. chemicals of more or less value in themselves, may be the droppings from time to good effect, both in stoppi and in making the atmosphe hen house more wholesome

The best materials for thi

EAD CHICKS

Does each morning's visit to the hennery show a dead chick here and there—more to-day than yesterday? It's the lice—and *now* is the me to *work* if you wish to save en a fraction of your promising ood. Ask your dealer for a can of

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Dust it over each mother hen and each individual chick and you will find no more dead chicks from lice. Instant Louse Killer, formulated by Dr. Hess (M. D., D. V. S.) also de-oys lice on horses, cattle, ticks on eep, bugs on melon, squash and cumber vines slugs on rose bushes, d is besides a valuable disinfectant l deodorizer. It comes in shaker-p cans and may be used winter and mmer alike. Look for the word nstant" on the can, as there are any imitations.

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hade San Bernardino, Cal.

are gypsum or land plaster, acid phosphate and kainit, a cheap potash salt. Each of these chemicals has the power of forming new compounds with the ammonia as fast as it is set free from the original combination. Wood ashes and slaked lime should never be used because they cannot combine with ammonia, while they do force it out of its compounds and take its place. Plaster is apt to produce a dry, lumpy mixture when used in large enough quantities to arrest the ammonia, while kainit and acid phosphate produce the opposite effect of a moist, sticky mass.

In Bulletin 98 of the Maine Experiment Station is described an experiment in which sawdust was used in addition to the chemicals. By this addition of an absorbent, the kainit and acid phosphate could then be used with excellent results.

Using their results as a basis for calculation, the weekly droppings of a flock of twenty-five hens, when scraped from the roosting platforms, should be mixed with about eight pounds of kainit or acid phosphate and a half peck of sawdust. If one desires a balanced fertilizer for corn and other hoed crops, a mixture of equal parts of kainit and acid phosphate could be used instead of either alone.

Good dry meadow muck or peat would be equally as good as sawdust if not better, to use as an absorbent.

In the experiment mentioned, more than half of the ammonia was lost in hen manure without chemicals when compared with that which had been mixed with them.

Fresh poultry manure at the present values of fertilizers would be worth sixty cents per hundred pounds. Figures from different experiment stations would give the product of twenty-five hens for the winter season of six months as three hundred and seventy-five pounds from the roost droppings only.

Poultry manure is especially adapted as a top dressing for grass because of its high content of nitrogen in the form of ammonia compounds, which are nearly as quick in their effect as nitrate of soda. A ton of manure preserved with sawdust and chemicals would be sufficient for an acre, when compared with a chemical formula for top dressing.

On the same basis of comparison, one hundred fowls runing at large on an acre should in a summer season of six months, have added to its fertility the equivalent of at least two hundred pounds of sulphate of ammonia, one hundred pounds of high grade acid phosphate and sixty pounds of kainit.

SECURING FERTILE EGGS.

Officials of the Department of Agriculture have been collecting data regarding the factors which affect the fertility of eggs, the question having been carefully studied at a number of experiment stations in the United States and elsewhere.

Too warm quarters for laying stock and overfeeding are commonly believed to exercise an unfavorable influence on egg fertility as well as does a cold season. The way eggs are handled or stored is also believed to affect the proportion which will hatch, as will also the conditions under which incubation occurs.

The vigor and character of the parent stock and the length of time the male bird has been with the flock are also important questions with respect to egg fertility. At the outset it should be pointed out that fertility

Feed the Chicks and Kill the Gophers

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A full, rightly balanced ration for the little ones, to be fed dry. All pure feed, no filler, no waste. The biggest seller because the best made. Keeps them growing and healthy. For sale by many dealers; if not by yours send direct to us.

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is most attractive to gophers, squirrels, etc., but sure death. Endorsed by Agricultural Colleges and Experiment Stations. Has had the greatest success for years in the Middle West, and also here in California last season. Circular with many testimonials and Affidavit of 201 killed in one day. If your dealer hasn't it, send $2.50 for two bottles, (not less than two) express prepaid by us. Money refunded if not as represented—so printed on the bottle.

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RELIEVE POULTRYMEN OF HATCHING WORRY.

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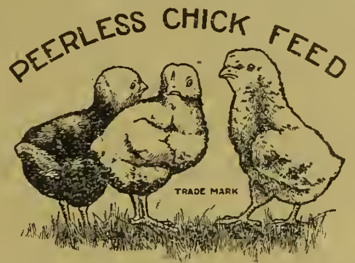

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That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen, contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribbons, all at Los Angeles County Poultry Association Show, December 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah. Hens and Pullets, $15 and $20 per dozen.
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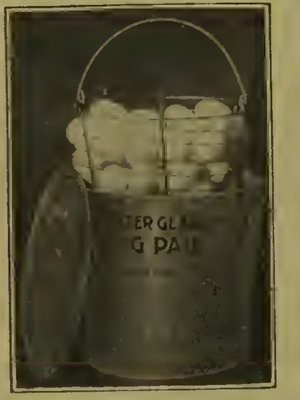

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25 cent tins will preserve 150 eggs and dollar tins 1200 eggs. Full particulars post free.

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500 choice White Leghorn Hens full blood, one year old and in fine condition, and declaring dividends every day now.

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To make room for young stock, will sell pen of 8 young hens, with male bird, for $16. They are utility White Rocks from first-class thoroughbred stock. Address

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"Birds That Lay and Win"

Winnings at Los Angeles, 1908: Cocks, 1, 2, 4, 5; Cockerels, 1, 2, 4, 5: Hens, 1, 2, 3, 5; Pullets, 1, 2. 3, 4, 5 Pens, 1. 2; Cup for highest scoring Minorca male in show. Stock and eggs for sale. Catalogue free.
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S. C. Rhode Island Reds Five pens headed by Eastern prize winners. Prices reduced. Standard eggs, $1; select prize, $1.50. Stock, $1 up. Our yards are carefully mated to successfully produce the "True Reds" of exhibition quality. Address **WHITE'S TRUE RED YARDS, Dolgeville, Cal.**

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Petaluma is shipping thoroughbred Cochins to Peru.

and "hatchability" are not necessarily identical.

An egg may be fertile and still the germ does not have sufficient vitality to produce a healthy chick under the ordinary conditions of incubation. In a series of incubator experiments at the Rhode Island station, of 8677 eggs tested, 83 per cent were found to be fertile, while only 46 per cent of the fertile eggs, or 38.6 per cent of the total number of eggs, hatched under the conditions of the tests.

The various observations made, while not entirely conclusive, indicate that, in order to secure fertile eggs, which will hatch, the laying stock must not be kept in very warm quarters or overfed; the males must be kept with the hens continuously and that only eggs should be used which are produced after the male has been with the hens several days.

Only few fowls from very vigorous parent stock and those known to produce a high percentage of fertile eggs (hens vary widely in this respect) should be used; the hens should be allowed a rest after each laying period, while the eggs should be handled carefully, not subjected to extremes of temperature in storage and used only when comparatively fresh.—Prairie Farmer.

POULTRY QUERIES.

Too Rich Food.

My chickens are dying. They become very light and lose appetite. No sign of bowel trouble. Crop almost empty. Examination shows liver to be a light yellow, almost like the lungs in appearance. Gall is exceedingly large. Have been giving small doses of calomel. Mrs. W., Imperial Valley.

From your description we would judge that you have either fed too rich food or some that may be musty, which may have caused indigestion and infection of the liver. Give complete change of food, using some well-known chick food, with plenty green stuff, charcoal and grit.

Give More Particulars.

What is the trouble with my pullets. They cannot stand, and wings are drooping. They eat all right. R. A. J., Corning.

Your description is too meagre for us to tell you the trouble. If you will write us fully what your feed has been and give us a better description of the pullets we will endeavor to give answer.

Possibly Was Injured.

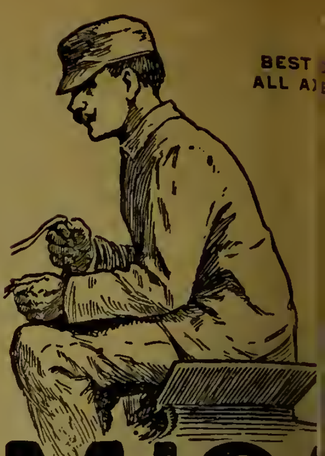
We recently killed an apparently healthy young Plymouth Rock rooster and found a substance colored similar to the yolk of an egg about an inch thick and two inches wide, detached, but lying near the back. Please tell me what it was. A Subscriber, Santa Ana.

Your bird probably got hurt at some time, which caused the growth. We can think of nothing else that caused it.

Liver Trouble.

I have a valuable Minorca rooster whose comb turned black and his wattle swelled a half inch thick and he would not eat. I gave him a teaspoonful of castor oil and made small hole on the under side of him and a thin yellow fluid ran out. He got better and eats well, but there are white lobes and his comb is getting dry and hard. He has grain and plenty of alfalfa. A Reader of Many Years, Tulare.

Your bird has liver trouble, which is caused by feeding too rich food, or spoiled food. Also lack of charcoal. Change food, give a variety, with plenty of green vegetable food; also charcoal and grit.



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TTER heritage than a work- knowledge of dairying can rdly be given to the younger on. I have been extensively is State as an institute wherever there are dairy the people have money to There are men always on tell how they started with ee or four hundred dollars w cows, after a few years of ned the land and the cows on dairyman, if he would count earnings and money invested s, would be surprised at the lary he has received during he had thought only of it as or his cows. Good cows are ble investment, poor cows all loss, if one knows what to them. Breed them to a good se the heifer calves and sell s fresh for as much as you them. There are people in hat want cows of limited that can be bought cheaply ned off to the butcher when milked out. Many a woman raising a bottle baby wishes w giving only a couple of gal- milk a day. She wishes to cow to milk for a six months ar and then if she has to sell utcher for ten dollars less t, she is well satisfied as the given milk enough for the d is off her hands.

Handkerchief Farms.

in Rhode Island where the shionable people congregate, by catering carefully to this eceives ten cents the year per quart for all the milk his e farm" can produce. At last s he had thirty-five cows and n on purchased food and was ell at the business. He cer- nderstands his business to do cessfully. We do not live up opportunities on the cheap al- elds of California. Alfalfa is t feed known. I was reading er day of the winter ration of H H. Dean of Ontario, gives for cows, it would California dairyman want to of business quick. Read this nder what a money value the inters have to us. Eight to nds of clover hay; 30 to 40 of corn silage; 20 to 30 pounds gels; eight to ten pounds of omposed of bran and oats, arts and one to two pounds of l, gluten or peameal. This is y's feeding. If the cows of nia received feeding like that ter of the State would certain- ncreased.

ans.

e the milk man is often for dirt, sometimes the con- is none to careful. I have an g little note on the desk t in by the wagon boy: call up Mrs.—— and tell her n is not clean this morning; two frogs in it and green These are milk customers uy five-gallon lots. The cook tly was careless in his work at ome.

is one of the foods that if the is done by the natural lactic bacteria is very wholesome. bacteria when unrestricted in their work are able to destroy the ptomaines produced by some forms of bacteria. The common forms of lactic acid bacteria are limited in this action. There is a form used as a ferment or yeast in Bulgaria to produce "Yog-hout" that has a distinct value as a cleanser of the digestive tract. These bacteria seem to sweep away the ptomaines completely. The Pasteur Institute over in Paris are investigating and preparing cultures for distribution. The Battle Creek Sanatarium people are also looking into the matter, as the drink of sour milk produced has a curative effect in all troubles that are intestinal. The very bilious people that find themselves constantly poisoned by foods can, by using Yog-hout, become healthy as normal people, as it destroys auto infection completely.

Koumiss.

This is another valuable production from milk in all fever and stomach trouble where milk can be used. We like it as a drink in the summer time. Take the morning milk and add to each quart a tablespoon full of active yeast and a tablespoon or more of sugar. Stand in a warm place and mix thoroughly. When evenly mixed and at temperature of 80 degrees, bottle into clean bottles, tie the cork down firmly, or better, use the bottles that have the iron clips for holding down the corks. Then stand the bottles in a rack upside down and in a place where the temperature will be not below 65 degrees or above 80 degrees; either too high or low temperature will kill the yeast germ that is working in the koumiss. After twenty-four hours put in a cooler place. Keep the bottles upside down; it is ready to use the third day, but will keep for two or three weeks; indeed, I do not know how long it would keep for it goes very quickly at the ranch. It foams and froths to fill half the glass and when just off the ice is very good. It is called milk champagne and is said to grow very alcoholic with age. The more sugar put into it the more alcohol it will develop by fermentation.

Ice Cream.

Rennet ice cream or frozen junket is familiar to many people, but it is not as good as the old fashioned buttermilk ice cream. This has become a fad with health seeking people. One part buttermilk to two parts plain sweet milk is well sweetened and flavored. In flavoring it the ordinary extracts used are not good, instead a cup of thick chocolate or of coffee or of maple syrup or of caramel, any one of these are better than even fruit. Peach preserve is not had in the way of flavoring.

New Process Butter.

The inventive genius is ever turning to devices for making butter; indeed, the new churns that are patented are almost enough to fill a book every decade, yet none have been able to devise any other way of getting a good butter out of cream that was better than the old way of concussion and shaking in out. The latest process to be received by a government bulletin, is the process patented by Sallie Boykin of Croket Co., Tenn. The process is simply making butter by Devonshire cream instead of raised cream. It will make a

Thoroughbred Regis- Holstein Bull 15 months old.
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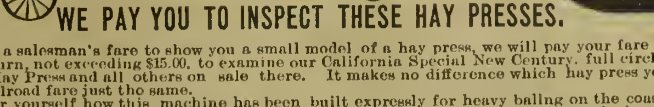

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When you see for yourself how this machine has been built expressly for heavy baling on the coast, how strong it is, how easy it is on horses, what smooth bales it turns out, you will understand why we make such an offer. It has 7-in step-over, pull power, high baling chamber, positive plunger rebound; it stands up to its work, no taking off of wheels. Has record of 39 tons per day. We will ship you one to try. If you don't want it we will pay freight both ways. Write now.

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Nature has provided the hog with great digestive capacity. It reaches full development and fit market condition in a few months' time. This fact, however, makes the hog an easy prey to indigestion or disease. When we consider the great increase in bulk and weight (often several hundred pounds) made in a season's feeding, we see the necessity for maintaining the digestive functions of the animal in a normal and healthy condition. Dr. Hess Stock Food, given in small portions twice a day in the regular feed, provides the necessary preventive of disease and the proper aid to a regular and *increasing* power of digestion.

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increases appetite in all domestic animals. Steers and cows eat more coarse fodder with the grain ration and digest the largest possible proportion of it, the manure showing by analysis a much lower per cent. of lost nutriment than that of animals differently fed. Dr. Hess Stock Food is the prescription of Dr. Hess (M.D., D.V.S.) and contains iron for the blood and nitrates to cleanse the system. Professors Quitman, Winslow and Finley Dun, our ablest medical writers, recommend these ingredients for producing the results claimed. Makes cows give more milk and steers lay on fat. Gives good condition to everything that eats it. *Sold everywhere on a written guarantee.*

100 lbs. $7.00; 25 lbs. $2.00

Smaller quantities at a slight advance.

Where Dr. Hess Stock Food differs in particular is in the dose—it's small and fed but twice a day, which proves it has the most digestive strength to the pound. Our government recognizes Dr. Hess Stock Food as a medicinal compound, and this paper is back of the guarantee.

FREE from the 1st to the 10th of each month—Dr. Hess (M.D., D. V. S.) will prescribe for your ailing animals. You can have his 96-page Veterinary Book any time for the asking. Mention this paper.

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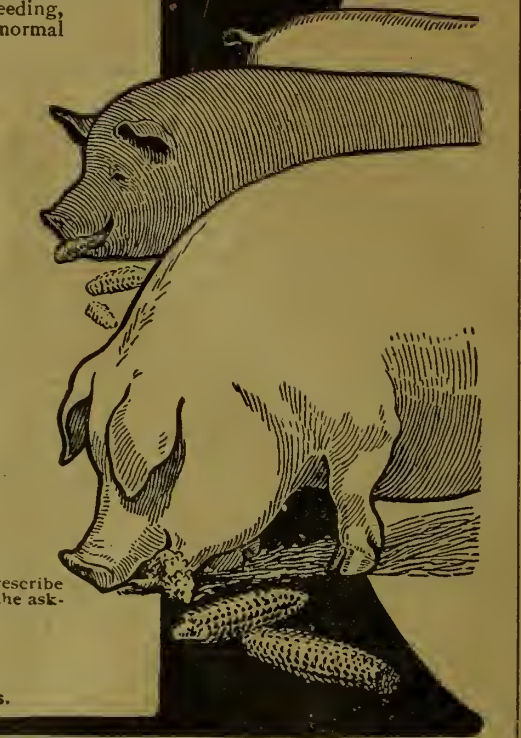

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Made of Coal Tar Creosote Oil. Great caution must be exercised with Carbolic, Petroleum, Sulphur-Lime and Tobacco dips. And none of these can compare in effectiveness with Cresol Dips, which are perfectly harmless.

West Coast Dip is guaranteed to be made from Oil containing 25 per cent Cresylic Acid. Permission was given by the U. S. Dept. to use our Dip for the treatment of Sheep Scab in the highest dilution ever allowed. When thus diluted it costs but a few cents.

For sale by many Dealers. If not by yours, send direct to us for Trial Offer, SPECIAL PRICE AND FREIGHT PREPAID.

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(Through to Alameda Street).
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that easily and cleanly milk 20 to 25 cows per hour are found in the perfected and practical

Mehring's Foot Power Cow Milker

which has been in actual use in some parts of the United States for 6 years and on the Pacific Coast for 2 years. The price of Milker complete is $110, net cash, and is doing the same work for one man as some "power" machines costing six or seven times as much.

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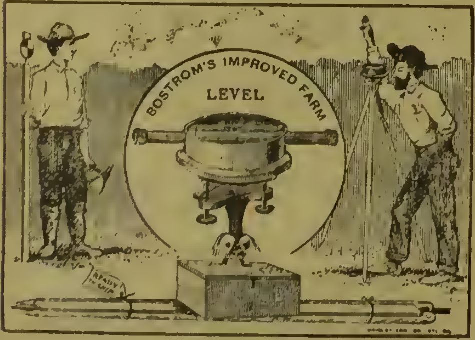

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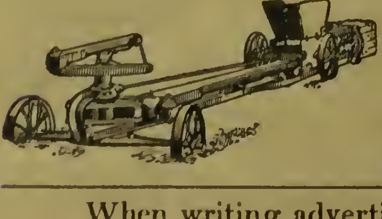

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Wood or steel pitman as desired.
Quick shipment can be made from stock at Pasadena
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sweet milk flavored butter and for warm climates has some advantages. Where only a pan full of milk is to be used it can be handled with sufficient economy to be profitable in saving labor. The pan of milk is set in the usual way in a cool place, the next morning without disturbing the cream, the pan is placed in another pan containing water and put on the range to arise to a warm temperature gradually. When the cream begins to wrinkle a little, stand the pan off the stove and let it cool down. When cool the cream should be leathery, then run a hand flat bladed knife under the cream and turn it over and over in folds like an omelet. Then take it up with the whipping bowl. If it is desired it can be eaten on bread just as it is, or it can be made into butter by using a beater. The butter will come in five minutes, if the cream is chilled to forty-five degrees. This butter will lack in grain a little and be low, mild, sweet flavored like pasteurized butter that has not had a heavy dose of culture to flavor it.—M. E. Sherman.

WHITE SCOURS.

This is a violent and deadly diarrhea that attacks young calves during the first few days of their life. If a calf escapes the disease for a week or so it is practically out of danger. White scours is due to a germ that usually enters the system through the freshly torn navel cord. When a calf is born the blood vessels and membranes extending from its body to the membranes attaching it to the uterus of its dam break and leave a fresh wound on the end attached to the calf, and this, if it comes in contact with infected bedding or manure, is sufficient to cause the disease. Even the hips of the cow afford a means of infecting the calf. White scours is frequently observed in herds where contagious abortion exists; this has led some authorities to believe that the same germ produces both diseases, but this theory has never been strongly supported, in fact, many things indicate that there is no connection between the two other than that both are fre
the same stable. The fact
diseases frequently occur in
stable may be explained b
ing that the conditions fav
development of the germs o
ease (after they have been i
also favor those of the othe

It has been demonstra
when a calf's navel is prope
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is placed in a clean stable th
ally escapes. Again the d
frequently seen in herds wh
is no abortion. These, and
of other conditions, go t
strate that these diseases a
by different germs.

The symptoms of white s
a profuse yellowish, offen
ing discharge from the
companied by a great wea
prostration; short, hurried
sunken eyes, and a tucked
calf lies on its side wi
resting on the ground an
ease progresses it becom
and frequently unconsciou
ease usually runs a r
course, while the few case
pen to recover remain st
ly becoming healthy, vig
mals.

Being a very virulent
ease, medical treatment of
ed animal is rarely of m
prevention is the only
course. This should consist
oughly cleaning and disin
stable or in moving the
cows into clean quarter
connection it is advisable t
cows in a three per cent s
some reliable coal tar dip o
acid, for the cows are ver
carry the germs with them
infected to a clean barn or
a barn after it has been d
It is very likely that th
counts for some failures
followed disinfection of th
lieu of dipping, spraying ma
sorted to.

Another method is to be
the birth of the calf and ti
lized string tightly around
cord before it has had th
come infected. This can b
turning the calf on its side a
it is born and ligate the
it is broken, if possible,
bathe the end of the cor
strength formaldehyde.
is properly done at the
there is very little danger
becoming infected. The g
jection to this is the diffic
possibility to be present at
time. Therefore, it is a
thoroughly disinfect the ba
cows just before the calv
begins and then be present
erly care for each calf as
whenever possible. If th
followed for a year or tw
ease should be stamped
ers' Tribune.

THE TREATMENT OF AC COSIS OR "LUMPY J

The treatment of this dis
be either medical or surgica
said the author of a paper
fore the National Veterinary
tion at Yarmouth, England,
wards reprinted in the
Journal of London. Former
entirely surgical, and consist
extirpation of the growt
possible, or the external appl
injection of caustics to these
Excision is still the best for
lated growths on the skin o

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pharynx. In the latter situation they are often difficult to reach, but may be snared with the aid of a mouth-gag and a thin metal tube and piece of stout wire.

With the exception of those cases, by far the best results are obtained by medical treatment, potassium iodide being a specific for the disease in cattle. The dose should be regulated according to the size of the patient, and should be about 1-4 of a drachm for each hundred pounds body weight—that is, from 2 to 3 drachms, once daily. It is best given dissolved in about a pint of water and drenched, in order to insure the animal getting the whole of it. After four or five days or a week the animal may show signs of iodism in the form of diminished appetite, catarrh of the nasal muscous membrane and conjunctiva, and the feces may be dry and coated with muscus. The potassium iodide must then be stopped for two or three days. During this interval 4 grains of biniodide of mercury may be given with advantage, as the growth otherwise increases somewhat when the iodide is stopped.

Biniodide of mercury is sometimes used throughout as a substitute of potassium idodide; the daily dose should be 3 or 4 grains dissolved with the assistance of 10 grains of potassium iodide, and administered as a drench in a pint of water. Although fairly good, it is slow in action, and its effects are not so generally satisfactory.

When there is ulceration or abscess formation, these conditions must be treated accordingly, by curetting and syringing, or packing the cavities with wool saturated with iodized phenol or Lugol's solution. Law suggests that where potassium iodide fails in cases with purulent complications, injections of antistre tococcic serum may be used with advantage. He also states that good results may be obtained by injecting potassium iodide solution twice a week into the tumor instead of giving it by the mouth. Some veterinary surgeons scarify the tongue and rub in biniodide of mercury ointment. Others apply strong nitric acid to the wens, and claim very good results for it. The last two lines of treatment appear to the author, however, as being both barbarous and unnecessary.—

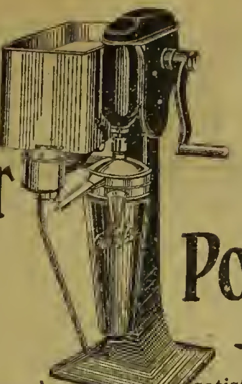
HOW TO EXAMINE A SICK ANIMAL.

First take the temperature of the animal by placing a self-registering Veterinary Fever Thermometer into the rectum, allowing it to remain there from three to five minutes. The normal temperature of a cow is 101 degrees (Fahrenheit) and the normal temperature of a horse is 100 degrees (Fahrenhelt;) hog 100 degrees; sheep 101 degrees.

Second, take the pulse of the animal, which can be found at the angle of the lower jaw bone. The normal beats of a cow's pulse is from 40 to 50 per minute and that of a horse is from 33 to 40 per minute.

Third, count the respirations of the animal, or number of times it breathes by watching the sides of flanks, or by pressing the ear to the side. The normal respiration of a cow is from 15 to 20 per minute and that of a horse is from 12 to 15 per minute, while resting.

If the temperature, pulse or respiration are found to be higher or faster than above described, you will know that the animal is ailing.—Dr. David Roberts, Wisconsin State Veterinarian.



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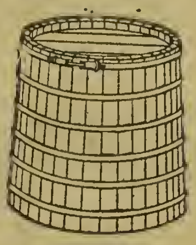

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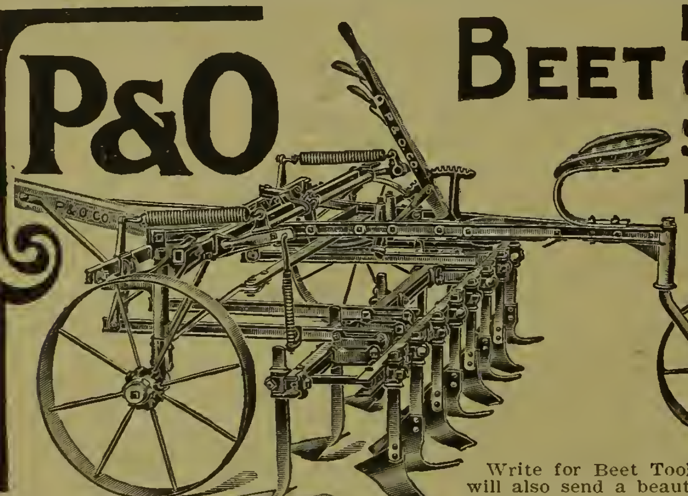

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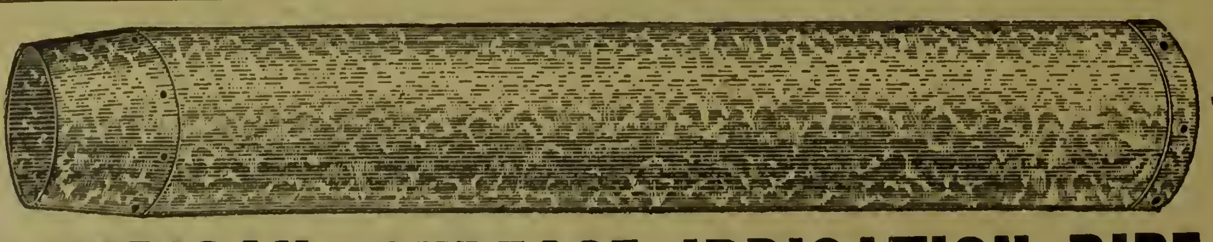

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Queries and Repli

Questions to be answered in this department should be received at this one week before reply is expected. Write plainly on one side of the pape sign full name and address. Unsigned communications receive no attent Ed.

Gophers.

For the benefit of those troubled with gophers, I send you a plan that I use for wholesale poisoning. I use a small shovel plow, make a trench five or six inches deep, drill poisoned Egyptian corn in the furrow and fill up the trench with dirt. It is all that is necessary to do; if the corn goes near a gopher den they will find it. I arranged a shovel for the purpose by attaching a large funnell to the handles just over the beam. Let a short piece of rubber hose go from the funnel down and lie close up against the rear side of the shovel so that corn dropped in the funnel will be discarged in the furrow and as the dirt falls in behind a narrow shovel the corn is covered.

In any but fresh plowed ground this does not work. If the ground is not rained on after plowing, I would advise waiting for a rain or irrigate the land to settle it before using the poison as the gopher can't readily follow the corn drill if all the ground is loose.

I will give the dose I use for five gallons of Egyptian corn. I get $1.50 worth of strychinine and for good measure I put in a box of rough on rats; dissolve the poison in enough sweetened water to soak the corn. When near the sprouting state give to the gophers.

Gophers, as a rule, are somewhat in colonies and it is necessary only to run the corn all through back and forth where they are then move to another spot.

Any one not wishing to fix up a shovel can use a small turning plow. Drill the corn in by hand and use the plow to throw back the dirt in the furrow. Don't worry about the gopher not finding the corn. If not killed he will get every grain put in a narrow trench. Drill the corn so that there will be a break of but a few inches in the corn. I find January and February the best time to poison as they are hard up for food.

* * *

I would like to correct some one answering a subscriber as to the advisability of budding or grafting peach to apricot stock. The writer stated in your paper that the two would not make a good union and the tree would likely be lost as soon as a heavy crop of fruit or a good wind came along. I can say positively that the opposite is a fact. I have 25 acres of old trees and many good crops of apric come off them in the last 1 not a tree has parted at the have made firewood of a goo and cut through the union an ined the chips closely and find the union perfect.

In the case of the peach ar on apricot I know they will n a good union for I have see part there, just as the two h an acorn, without a splinte serymen don't like to work stock, because it is easier t the peach. I know that a p chard on apricot root is f lived and will do better on heavy soils than will the p —C. A. McDermott, Sultana.

Mildew on Onions.

Will you kindly tell m the Cultivator what disease Bermuda onions which is in C. Toyoshima.

The onion disease of wh correspondent sends a spe that known as the "mildew," tacks the onion very severel State during the winter seas disease is particularly troubl the growers of onion see fields often become badly with mildew. Spraying with deaux mixture has been tr some success for this disea not effective unless the work particularly well and thorou account of the smooth leaf s the onion plant. It is quite to make the spray stick leaves and cover them co In spraying for this disease to add two or three pounds o fifty gallons of Bordeaux m order to make the liquid st evenly. It must also be app very fine misty spray, obt getting a high pressure f pump.

In our climate the applica sulphur is often very effectiv troubles of this sort, and I w ommend the enquirer to try t sulphur should be dusted plants quite abundantly, put in the morning when the to with dew.—Ralph E. Smith

Possibly Blight.

Wilting and dying of w plants; hills of six, eight plants will wilt and die gra til they are all gone. It is cut worms or lack of m have examined them caref casionaly find a wire wo the roots and I also find tha of the stems is a kind of a rusty color just above where roots begin.—E. C. R., San

I have not had a case this in my experience, and further data than is suppli query it would be difficult mine the cause of the troubl had squashes destroyed in ner by a worm or maggot th within the stem. If on caref nation of the interior of nothing can be found, I shou clined to believe the troubl by some fungus in the soil gret that I can offer no re A. L.

Isn't this a case of bligh only a change of soil locatio voting this soil to culture ll avail. Melon growers near geles are compelled to change every two or three years, for as the blight strikes there is hope for the land till. other ve been grown.—Ed.

ia Grape Juice.

e inform me how to clarify d grape juice so as to preserve ain flavor.—J. S. B., Compton.

he Cultivator of Sept. 12, age 244. In a word, the pro- —ripe fruit crush, strain Let it settle over night. Place glass jars or bottles. Set boiler on wood strips and fill water to within an inch of top s. Heat to 185 degrees F. e jars and set away for two Then rack off and heat again way only to 180 degrees this Seal and store.

ets.

e out about one acre of onions, ve them in very sandy loam, as not been cultivated for hree or four years, and has not ertilized in any way. The don't seem to grow fast enough. will be the most profitable, to ets of them or to let them grow e large onions? If sets, how they be pulled to let dry? too much water hurt them?— ber. Huntington Beach.

dly think it possible to pursue thod with this acre now, that nable the owner to turn them sets—and if it could be it not be profitable. The quality not be good and the return be so small from so large an to be altogether unsatisfac- The trouble is, I think, due to lack of fertility in the soil. require very fertile soil to satisfactory crop. It might sible to get a fair crop yet by plication of nitrate of soda— pounds per acre, put on in three applications about two apart. Sow it broadcast when nts are not wet with dew or is possible to injure the crop ng too much water, but the cribed will bear heavier water- n a soil that is not so light. gh cultivation is equally nec- with irrigation.—Q. A. L.

gus.

you inform me through your e paper how best to start an us bed or field?—Pery Daynes, s, Cal.

best way to start an asparagus to set out extra, selected one- l plants in January (for Cali- It is now too late to do this, ould be possible if you sowed once to raise good plants this r. Sow the seeds in rows that ut 15 inches apart; one ounce should sow 75 feet of row and oduce about 250 plants. This d should be fertile, mellow soil plants should have the very care in cultivation and irriga- f you soak the seed in hot or 36 hours it will hasten their ation. Many planters grow lants two years before setting manent quarters. It never to me to be the best way, if it ible to get first class one-year Asparagus is one of the rank- ders known among vegetables is labor thrown away to at- to grow it in any ordinary soil t liberal fertilizing, and expect ble results. It is, moreover, a at is good for 20 or more years erly cared for and will, there- ay for some extra work in preparing the soil. One hundred tons per acre of good stable manure is none too much to work into the soil before planting.

A great diversity of opinion exists among gardeners as to the distance apart to plant. I prefer rows that are four feet apart with a plant set every 18 inches in the row. Let the crown of the plant be about four inches lower than the surface and cover about two inches when planted and after growth starts fill in the balance. There should be an annual application of manure about February 1st and at the same time sow kainit at the rate of 600 pounds per acre. It is best not to cut any asparagus for the first year after setting out the plants. For the beginner, or any one with limited means who wishes to grow asparagus, it is wise to begin in a small way and do only as much as can be done thoroughly. By pursuing this course every year it may take longer to get your desired area, but it is the only desired course that will bring success.—Q. A. I.

To Kill Johnson Grass.

I have noticed several queries in regard to killing Johnson grass. I have found that it can be killed by covering with 18 or 20 inches of manure. Leave it for one season. I have tried this successfully.—O. C. Woodward, Chico.

We thank Mr. Woodward for the suggestion and believe the treatment will be effective and, more, will leave the soil in fine condition. Along this line we may note that we recently noted that another has secured good results by covering the ground with roofing paper taken from a farm building. It was laid over the grass so as to exclude light and air as much as possible.

Eucalyptus for Wood.

Kindly inform me through your columns as to the right kind of eucalyptus trees to plant for the production of wood. Also inform me as to the distance to plant trees apart, amount of water required and the necessary cultivation. I have two kinds of soil, red clay and sandy loam. What I want is a quick maturer and a large producer, something marketable in three to five years.—D. L. A.

We do not think you will find anything superior to the common blue gum, Eucalyptus globulus. It has been dubbed "the Prince of Eucalypts" and is the fastest grower of any tree. Once established it will withstand drought and quite low temperature, but when young does not like a continual temperature of much below 27 degrees. You would need to water the first year or two. If watered abundantly thereafter, more abundant growth will be given. In that case a cutting of wood may be had in five years. Some have planted as close as 6x6 and in three or four years cutting each alternate tree out. Probably 8x16 feet is better and will give as much growth and better timber.

Arid Farming.

Kindly inform me through the columns of the Cultivator how to obtain a general knowledge of the Campbell system of dry farming, and oblige.—H. L. Dodge, Stockton.

Any questions you may ask "Dry Farmer" will be answered in the Cultivator. Dry or arid farming is not a system which any one has a patent or exclusive knowledge on If, however, you wish information from Mr. Campbell, you can write him.—H. W. Campbell. Lincoln, Neb. He has published a book we believe at $2.50.

Orange Marmalade.

Enquirer for orange marmalade will find recipe in issue of Feb. 27, page 244. Also if lemon and grapefruit recipes are desired, see issue of Feb. 13, page 181.

Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

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IF YOUR FARM IS FOR SALE LIST WITH me for quick results. If you are looking for a farm, write me, giving particulars and location desired. H. O. JACKSON, 1112 Broadway, Oakland, Cal.

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SABLE AND WHITE COLLIE PUPPIES—Sires, Brandane Wishaw Squire and Glen Fana Bounder, litter brother to Anfield Model. Dams, Ormskirk Gloriana and Presidio Nellie. $10 to $25; 2 to 8 months. GLENALPINE KENNELS, Grandville, Cal.

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PALMS, PALMS, PALMS—SIX "3-YEARold" Ornamental Date Palms. Balled and sacked, prices $3.75. Blue gums $9.00 per 1000. Choice variety grape vines for trellis and arbor planting $1.00 per dozen. The SOUTHARD NURSERIES, Redlands, Cal.

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MACHINERY FOR SALE—ELECTRIC AND gasoline engines, pumping plants, pipe. Good bargains in new and second-hand machinery. LOOMIS & BROWN, Machinery Brokers, 323 Citizens Nat'l Bank Bldg., Los Angeles, California

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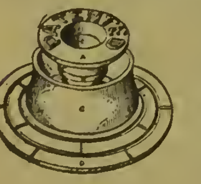

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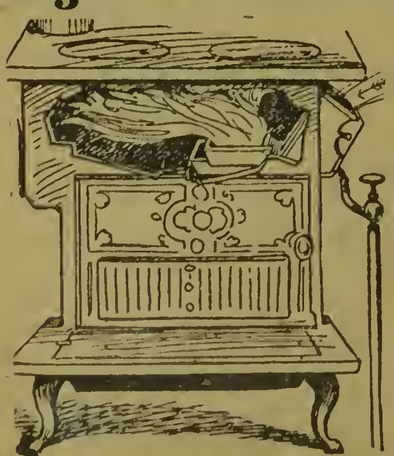

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Household Departme

FALLING LEAVES.

The days are shorter, 'tis chilly weather,
The hours are swiftly flying,
The winds go rushing through the trees,
Their leaves are dropping, dying.

O, beautiful in death are they,
The autumn leaves all crimson,
Yellow, brown and the shades between,
And others speckled and golden.

I cannot explain the sadness that comes,
When the wind with its mournful sound,
Unloosens the leaves from the friendly trees,
And with zigzags float to the ground.

In the heart of all will this pain attend,
Who with thought doth witness this fall,
Conscious of weakness, lonesome, yearning,
While mystery covers all.

U. U. J.

THE GIRL HE LOVED.

Continued from last week.

It was not a stylish hotel; it was a plain, old-fashioned place, and its customers were of the same sort.

There was some flutter when Mrs. Acton's carriage stopped before the door, and the lady was shown into the parlor. The landlord presented himself promptly; to him Mrs. Acton was condescendingly affable.

"I have come to speak to a young woman you employ here," she said; "one Mattie Morley. Can she come to me for a few moments, Mr. Borum?"

"Certainly, certainly," the man replied, in some surprise, "I'll send the girl to you."

And he hastened away and was heard calling in the distance:

"Mattie—Mattie, where are you? You're wanted, girl—you are wanted."

Mrs. Acton began to feel a little nervous; she felt more so when she looked up and saw a charming girl standing in the doorway. Beauty she had expected, but such a face, such a mein. The girl did look like a lady she confessed to herself. Phil was right.

"I am Mattie Morley, madam," said the young woman. "You wish to speak to me?"

"Yes, my dear," said Mrs. Acton, "I do. Shut the door, and come here and sit where I can speak to you without being overheard."

The girl obeyed.

"I am Philip Acton's grandmother," Mrs. Acton said when she had done so. "Philip has told me of your engagement to each other. Now I have no personal dislike to you. You are a very pretty girl, and are, no doubt, well thought of by your friends. But I do not wish Philip to marry for years and years, and if he does—any one, you know, not you particularly—he will have to go away from home and earn his living as he can. If you have any friendship for him you will not condemn him to that. He is not accustomed to work, and will never be able to support himself. And of course a wife would have a hard time of it. You would lose what you have and gain nothing. I should leave every cent elsewhere. I never say a word I do not mean.

"Of course, a girl should marry as well as she can," proceeded the old lady, trying to look benevolent, "and my object in coming is to save you from doing a foolish thing; any honest young man who can work at a trade

would be a better match for you
an idle young gentleman with n
in his pocket. Besides, he will
able to stick to this idea of hi
it will be better for you to be th
to break off the match. As a w
of course, I must feel a little f
other woman in these respects
no doubt you, being so pr
plenty of beaux, my dear W
choose one of them, and
Phil about his business?"

The girl lifted her head
at the old lady.

"Madam," she said, "I a
mercenary person you think
not accept Philip because he
money or with any thoughts o
inheriting more. I loved him
lieved he loved me. I could
been pleased with any one
worthy, who has not refin
education, and I was glad t
by a gentleman. I thought
all chance of that behind,
live on as I am living now
Philip flattered himself
would like me, but you di
care to see what manner of
servant girl might be. Yo
quite candid with me; P
The truth falls from his lip
ily that he told me all. I ha
to change your mind a
money, but I should like you
understand me a little bette
to be angry with Phlip. I'v
he will get on; we are y
can wait. As for me, I co
ents who thought love be
anything else; my mother
about it.

"She ran away from
school with my father—her m
posed their union—and she
her lover's persuasions and ra
with him. She loved her moth
ly, and I have often seen h
while speaking of her. My f
a musician; we traveled a gr
and he did not make much
but my parents idolized ea
and I was very very happy
love.

"When I was 13—I am 18
father obtained an excelle
ment in an opera company
America. My mother was
for she longed to see my gr
again. We started in excell
for my father had now ho
coming rich and famous. Al
dreams were all doomed
pointment. The steamer was
in mid-ocean. Many were
parents amongst them;
dragged me into a boat as
past it; I was told this aft
the time I was unconscious
steamer picked us up next
was taken to New York.

"I had been placed in so
ble institution when Mr. an
rum came there to look for
girl to bring up as a servant.
great grief it did not matt
where I went, and Mrs. Bor
and good-natured. I have
work, of course, but only as a
of the house might, and I had
had some education. I ha
everything I could get; I sha
improve and not disgrace Ph
you have my history."

She paused; old Mrs. Act
gazing at her earnestly.

"Your grandmother, chil
you ever met her? What
name?" she asked.

"I never knew," said the gi
mother called her mamma.
ple here call me Mattie M

have let it go at that; but I was christened Mathilde, and my father's name was Morelli."

"Great Heaven!" cried Mrs. Acton. "Child, tell me your mother's name?"

"It was Grace," said the girl.

Mrs. Acton had turned pale and was trembling violently.

"Have you anything that once belonged to your mother?"

"I have this locket" she said, drawing a square ornament of gold from beneath her coarsage. "It holds the hair of my grandparents. It was about my neck that fatal night, and so has been preserved."

Mrs. Acton caught the locket in her hand and opened it. A curl of gold, and another of ebon blackness lay within, and "To Grace, from her mother" was engraved upon the case.

"Great Heaven! cried the old lady. "This is like a dream. Child, your mother was my daughter. You are my grandchild. Philip is your cousin. Come to me."

The next instant she was weeping upon the girl's shoulder.

"Come home," was what she wrote to Philip next day. "I have made a discovery. Mattie is your cousin, and I see no reasons why cousins should not marry?—Mary Kyle Dallas, in Journal of Agriculture.

RECIPES.

To make paste for pork pies put 1 lb. of flour in a basin, and well mix into the flour 1 oz. of salt. Melt one-quarter lb. of either lard or butter in one-half pint of hot water.

As soon as the butter is melted make a hollow in the flour in the basin, and with the lard make the flour quickly into a nice elastic dough; put it at once in a warm basin or saucepan, cover it with a cloth to keep it warm until you are ready to mould it into pies, which should be about the size of a small plate, and quite three inches high. These are raised by making a piece of the paste into a ball, and moulding it round a small basin or jar, keeping the paste of an even thickness all through.

Pare off the rind and some of the fat from any parts of pork that you wish to make into pork pies; cut the meat in scollops, and well season the pork with a seasoning—all well pounded and passed through a fine wire sieve—of 1 oz. of bay leaves, half a nutmeg grated, 1 oz. of cloves, one-quarter oz. of mace, 1 oz. of basil, 1 oz. of winter savory, 1 oz. of lemon-thyme, one-quarter oz. of cayenne pepper, one-half oz. of black pepper. 2 cloves of garlic, and one-half oz. of grated lemon-peel. These herbs can be kept for use well corked down in a glass bottle. Not more than a dessertspoonful is required for each pie, with a seasoning of salt to taste.

Pack the pie firmly with the meat; use but a very small quantity of water—not more than two tablespoonfuls; put on top, pinch the edges and bake in a moderately hot oven for two hours. They can be ornamented with the paste, cut in leaves or any fancy pattern. When taken from the oven, a little good, well-flavored gravy—not dark—should be poured in at the top. They are best eaten cold, and will keep good for a week or ten days.—London Farm and Home.

HOMELY HINTS.

Scrape the bread board thoroughly with a table knife each time after using and rub with a clean, dry towel—do not wash it. Treat the rolling pin the same.

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A Savings Bank?

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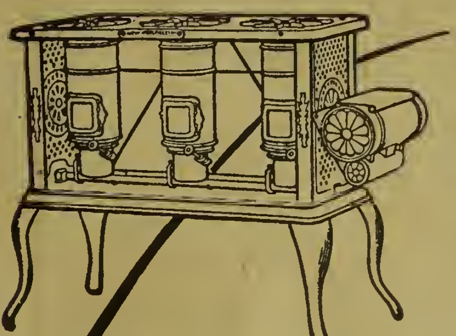
Hot Stove—Cool Kitchen



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You need a "New Perfection" Oil Stove that will do the cooking without cooking the cook. It concentrates plenty of heat under the pot and diffuses little or none through the room. Therefore, when working with the
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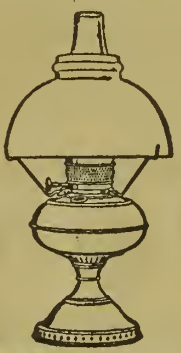

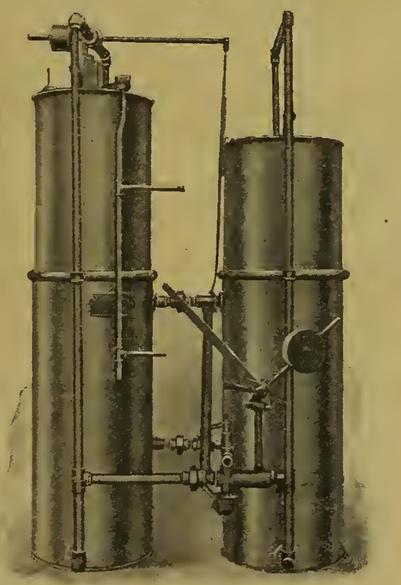

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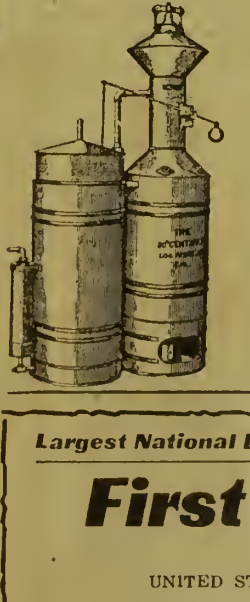

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Prompt Delivery Assured California Customers from Stockton warehouse. No delays. Address all letters to Bellows Falls, Vt.

The Produce Markets

Los Angeles Markets

LOS ANGELES, April 29, 1908.

Quotations on butter are as last week, though a 2½ cent advance on quotations is demanded by many dealers. The market is not strong, however, owing to immense receipts cold storage is taking much of the present receipts.

Creamery ex per roll	47½
Firsts	45
Dairy	22
Cooking	17½
"Butterine"	15@20

Cheese.

California Anchor	18
Northern fresh	14@15
Eastern singles	16½@17
Imported Swiss	29@30
Tulare flats	15@15½
Swiss	14@15
Oregon	18

Eggs and Poultry.

The egg market is stronger, though quotations are the same as last week. The fleet supplies is thought to strengthen the general conditions.

Eggs local candle	19
Eggs case count	17
Northern candled	18
Case count	16
Eastern fresh	18@19
Hens per lb	11
Young roosters per lb	17
Fryers	22
Broilers per lb	23
Roasters	18
Old roosters	8
Turkeys	16
Geese	13
Ducks	12
Squabs	1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds	6½
Prime steers	4½
Heifers	4
Calves per lb	5
Sheep ewes per head	4.75
Lambs per head	3.50
Wethers	5.50

Potatoes.

Highlands	90
Early Rose	1.70@2.25
Salinas	1.25@1.50
Sweet potatoes per sack	3.50@3.75
Sweets Northern	3.00@3.25
Oregons	1 5
White Rose	1.35
Watsonvilles	1.35
Nevadas	1.35
Idahos	1.25
New potatoes by lb	3@4

Onions.

Conditions with onions remain stationary. No charge noted during the week.

Bermudas per crate	1.85@2.00
Oregons	4.25@4.50
Minnesota	4.05@4.30
Garlic	18
Coachellas	3.30
Texas	1.75
Silverskins new	3.00

Vegetables.

Artichoke per doz	40
do Jerusalem box	75
Asparagus per lb	8
Asparagus green	8
Beets per doz	25
Bell peppers per lb	25@30
Beans limas per lb	10@12
Beans green	12@15
Beans yellow	10
Brussels sprouts per lb	12@18
Cabbage sack	50@60
Cabbage red per lb	1½
Celery per doz	1.50@2.25
Chili peppers per lb	20
Chives per doz	1.25
Cucumbers per doz	1.75@2.25
Cauliflower	75@1.00
Carrots per doz	25@30
Egg plant lb	15
Green onions doz bunches	20@30
Hubbard squash per lb	1@1½
Lettuce per crate	50@1.00
Mushrooms per basket	1.75
Mint per box	40
Okra	20
Peas sugar per lb	3@3½
Parsley	30
Parsnips	35@40
Rhubarb per box	1.35@1.65
Radishes per doz	15@20
New summer squash per box	1.40
Salsify	40@50
Spinach per doz	15@17½
Turnips doz bunches	35
Tomatoes per box	2.00@2.15

Citrus Fruits.

Navels fy	1.60@1.75
Navels ch	1.25@1.50
Tangerines	1.60
Culls	40
Grapefruit seedless	2.50@3.00
Grapefruit seedlings	1.50@1.75
Lemons fancy	2.00@2.25
Lemons choice	1.00@1.25

Fresh Fruits.

Bellefleurs	2.00@2.25
Baldwins	1.50@1.75
Pippins 4-tier	1.50@1.75
W W Pearmains	2.00@2.30
Colorado Jonathans	3.00
Cal Ben Davis	1.75@2.00
Cherries	1.85@2.00
Loquats per lb	3@4
Dewberries	10
Raspberries	15@20
Strawberries	3@4
Extra fancy	15

Dried Fruits.

Apricots	18@22
Evap apples fy per lb	11@12
Figs loose	7
Peaches	11½@12
Pears	16
Nectarines	16
Prunes	3½@5½

Beans Dried.

Limas per ctl	4.75
Pink No. 1	3.50@3.65
Lady Washington	4.00
Small White	3.75@3.85
Black Eyes	4.50@5.00
Garvanzas	5.50
Lentils	11½

Nuts.

Almonds per lb	17½
Pecans polished	16@17
Peanuts Virgina	8½
Peanuts California	8½
Walnuts No 1 SS	16
Walnuts No 1 H S	14@15

Honey.

Extracted Water White	7¼@7½
Comb W W	14

Hay.

Price paid to producers f. o. b. Los Angeles are as follows:

Barley No 1	15.50@16.00
Barley No. 2	9.00@11.00
Alfalfa northern per ton	12.50@13.50
Alfalfa local	17.00@18.00
Plain oat No 1	15.00@17.00
Wheat No. 1	15.00@16.00
Wheat No. 2	11.00@12.00

Grain.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl	1.85
Wheat in 100-lb. sacks	1.90
Barley	1.50
Corn Eastern sacked	1.80
White oats	1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn	1.85
Shorts	1.70
Bran	1.55
Oil cake meal	2.50
Feed meal	1.90
Rolled barley	1.55

San Francisco Markets

SAN FRANCISCO, April 28, 1908.

Butter.

Butter strengthened immediately after last report, then advanced ½ cent. The following day it sagged to its former price of 22½ and has now declined to 22 or ½ cent lower than last week. At that quotation the market is strong.

California extras per lb	22
California firsts	21½
California seconds	21
Fresh packing stock	19½
Fresh packing stock No 2	18½

Cheese.

California young American fy	13½
California flats fy	12½
Firsts	11½
Eastern fy	16½
Oregon fancy	14

Eggs and Poultry.

Eggs have declined ½ cent during the week and are firm at present quotations.

Fresh ranch eggs	19½
Eggs firsts per doz	19
Eggs second per doz	17½
Hens per doz	5.00@6.50
Hens extra	7.00@9.00
Young roosters	7.50@8.50
Old roosters	4.00@4.75
Fryers per doz	7.00@8.00
Broilers per doz	4.50@5.50
Geese per pair	2.00@2.50
Ducks young	5.00@7.00
Turkeys per lb	14@16
Pigeons	1.35@1.50

Live Stock.

Steers No 1	8½@9
Do second quality	7½@8
No. 1 cows and heifers	7
Hogs 80 to 200 lbs	6@6¼
Hogs 200 to 300 lbs	5½5¾
Calves per lb	3½@5
Lambs	6@6½
Wethers No 1	5½@3¾
Ewes No 1	5@5½

Potatoes.

River Whites	40@85
Oregon Burbanks	90@1.10
Lompocs	1.15@1.25
Early Rose	1.25@1.35
River Reds	1.35@1.40
Salinas Burbanks	75@1.15
Sweets per crate	2.50@3.25
New potatoes per lb	2½@3

Vegetables.

Asparagus per lb	4@7
Celery per doz	35@50
Cucumbers per doz	1.00@1.50
Chili peppers per lb	25
Bell peppers per lb	10@15
Egg plant per lb	15@20
Green peas per sack	1.25@1.50
Squash per box	50@1.25
Marrowfat squash per sack	60@75
Mushrooms	75@1.25
Hubbard squash per sack	60@80
Onions green per box	60@75
Rhubarb per box	65@1.25
Tomatoes local	1.25@1.75
String beans	12½
Garlic	20@22½

Onions.

Oregon yellow	3.50@4 00
Eastern Red	3.00@3.50
Bermudas per crate	1.85@2.00
Australian Brown	5.00@5.50

Citrus Fruits.

Navels fy	2.00@2.40
Navels ch	
Grapefruit seedless	
Grapefruit seedlings	
Tangerines	
Lemons	
Limes	

Fresh Fruits.

Newtons	
Spitzenberg	
Pomegranates per box	
Strawberries per ½ crate	
Longworths per chest	
Cherries	
Aligator pears	

Dried Fruits.

Apples (evap.)	
Apricots per lb	
Figs white	
Nectarines	
Plums pitted	
Peaches	
Pears	
Prunes 4-size bag basis	

Beans Dried.

Limas	
Pink	
Small white	
Large white	
Lady Washington	
Black Eyes	
Red Kidneys	
Garvanzas	
Bayo	
Horse beans	

Hops.

Hops per lb	
Hops old fancy	

Honey.

Clear white comb	
Amber	
Extracted	
Beeswax No. 1 per lb	
Beeswax No. 2 per lb	

Hay.

Somers & Co. say:

The rather firm prices past week have attracted c hay to market with the r total arrivals for the week amount to 3280 tons, whic heavy for this time of ye erable anxiety has been part of many consumers has resulted in all rece quite readily absorbed and t well maintained at the r vance. There is consider ness felt throughout the c which has resulted in m refusing to dispose of th a number of operators considerable quantities on A calm, conservative estim situation shows that the sit far from being alarming at ment for although some d bound to suffer no matter weather may be, yet in m the crops look very well.

Choice wheat hay alone tionally good demand with ing well maintained. T grades of Volunteer hay ar ing very readily, whereas grades of wheat, tame oat oat are a bit neglected holding without any part cline. We give today's q follows:

Choice wheat hay	
Good wheat hay	
Other grades same	
Wheat and oat	
Tame oat	
Wild oat	
Stock hay	
Alfalfa	
Straw per bale	

Grain.

Wheat No 1	
Barley No 1	
Corn large yellow	
Oats white	
Oats red	

Feed Stuff.

Bran per ton	
Feed cornmeal per ton	
Cracked corn per ton	
Rolled barley per ton	
Oil cake meal per ton	
Cocoanut cakes per ton	
Middlings	

Citrus Marke

LOS ANGELES, April

Oranges are in good d holding fair prices, perha up to those of a week a may be said there is n weakening. Navels are c and good condition on arrival eral.

Lemons are doing bett grades still have a hard tim but first grade goods are sell and the warmer weather of t will help this market. Strictl lemons will now sell so as to n $2.00 to $2.25 f. o. b.

NEW YORK, April 27 two navels, one Jaffa, one sw seed, one blood and one lem Market is unchanged Dema Weather warm and cloudy.

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cents per foot; 1 inch, 4¾
foot; 1¼ inch, 6 cents per
inch, 7 cents per foot; 2 inch,
per foot; 2½ inch, 15 cents
3 inch, 18 cents per foot; 3½
cents per foot; 4 inch, 32 cents

ll casing prices and sizes: 2
nts per foot; 2½ inch, 9 cents
; 3 inch, 13½ cents per foot;
, 15 cents per foot; 3½ inch,
per foot; 4 inch, 18 cents per
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an and H. A. Perkins under the
me of Cultivator Publishing Co.,
olved by mutual consent, J. J.
an retiring. The business will be
ed under the same name, Cultiva-
blishing Co., which assume all
es and collect all outstanding ac-
Signed this 8th day of April,
t Los Angeles, Cal.

J. J. Steadman.
H. A. Perkins.

NAVELS—

Orchard Nat O Co	3.10
Columbia	2.60
Tigerhead I L Lyon & Sons	2.75
Rialto Girl Gr Ft Co	2.70
Mt. Harrison F L Sewell	2.40
Flower Grs Ft Co	2.65
Tropical Queen Moul & Gre	2.05
La Verne M L Sparks	2.45
Sweetheart High Ft Ex	2.95
Lincoln A H Ft Ex	2.60
Iris D M Ft Ex	2.80
Violet D M Ft Ex	2.55
Volunteer S A Ft Ex	2.45
Laurel C Ft Ex	2.70
Lily Q C Ft Ex	2.50
Ben Hur R H Ft Ex	2.65
Uncle Sam Riv Ft Ex	2.80
Golden Orchard Ind Ft Co	2.65
Producer Red O P Co	2.55
Alta Cresta A H Ft Ex	2.70
Robusta A H Ft Ex	2.45
Lochinvar R H Ft ExN	2.65
Sunshine O Gr C Assn	2.70

ST. MIKES—Boxes—Iris, D M Ft Ex, $3.00; Violet D MF t Ex,$ 2.90; HALVES—Iris, D M Ft Ex $1.40; Violet, $1.35.

BLOODS—Boxes—Vivtoria, A H Ft Ex, $2.75; Iris $3.10; Violet, $2.95; Jasmine, D M Ft Ex, $2.65; Princess, Q C Ft Ex, $2.45; Uncle Sam, Riv Ft Ex, $2.85; Slover Mt. Grs Ft Co., $2.95; Carnation, Moul & Gre, $2.85; Eagle Head, $2.70; Lionhead, I L Lyon & Sons, $2.15; Buffalo Head, I L Lyon & Sons $2.50.

TANGERINES—Orchard Nat Or Co, $2.00; Flower Grs Ft Co., $2.00.

LEMONS—Palm Tree, A H Ft Ex, $1.75.

PITTSBURG, April 27.—Seventeen cars sold. Twenty-one on track. Weather favorable. Market easier.

NAVELS—

Pointer ACG Ft Ex Glen	2.45
Palm Tree AH Ft Ex Prenda	2.20
Gavilan R Ft Ex Arling	2.65
Yankee Doodle H Fth Ex	2.40
Blue Jay D K Ft Ex	2.30
Orchard Nat Or Co	2.85
Carnation Moul & Gre	2.65
Golden Strand	2.40
Mutual Red M O Co	2.65
Hunter ASG Ft Ex Glen	2.25
Troubador AH Ft Ex Prenda	2.00
P. of California R F Ft Ex Arl S	2.30
Owl O K Ft Ex	2.35
Standard Moul & Gre	2.65
Pansy Colt O G Assn	2.55
E Highland E H Citrus Assn	2.75
Yule Tide R M O Co	2.75

TANGERINES—Pointer, ACG Ft Ex., $2.10; Palm Tree, A H Ft Ex., Prenda, $1.50.

SEEDLINGS—Del Oro, Sparr Ft Co, $2.10; Serenade, T C Ft Ex Sanger, $1.70.

BUDDED—Pride of California, Riverside Ft Ex., $2.35; LaPaloma, Riverside Fruit Ex., $2.25.

LEMONS—Mision, S. T. Ft Ex., Santa Barbara, $1.50; Festival, S. T. Ft Ex., $1.15; Pepita, T C. Ft Ex., Sanger, $1.10.

BOSTON, April 27.—Seventeen cars sold. Twenty-five on track. Weather warm. Market is higher.

NAVELS—

Golden Rule R F Ft Ex Riv	2.75
Tunnel S T Ft Ex Fernando	2.85
Laurel Q C Ft Ex Cor	2.95
Lily Q C Ft Ex Cor	2.45
Eagle High Ft Ex	2.80
Winner S B Ft Ex Drew Sta	2.55
Orchard Nat O Co	2.95
Elephant O Grs Cash Assn	2.75
Criterion Penn Ft Co	2.65
Geranium Cal Cit U	2.60
Clover Red O Grs Assn	2.55
Criterion Penn Ft Co	2.50
Rev S T Ft Ex Fernan	2.95
Golden Rule R F Ft Ex Riv	2.80

RUBY BLOODS—Golden Rule, Riv Ft Ex., $2.70. HALVES—Elephant, O. G Cash Assn., $1.40.

LEMONS—Highlander, Highgrove Fruit Grs Assn., $1.40.

PHILADELPHIA, April 27.—Twelve cars navels, one seedling, two mixed and one car lemons sold. Market is lower. Weather cloudy, muggy. Four cars Florida oranges and grapefruit sold. Grapefruit selling higher.

NAVELS—

Setter A H Ft Ex Arling S	2.08
Dan Patch S B Ft Ex Blooming	2.47
Colombo S B Ft Ex Fuller	2.18
Blue Jay O K Ft Ex	2.20
Hawk S A Ft Ex Walnut	2.05
Tally-Ho S B Ft Ex Rialto	2.36
Independent Ind Ft Co	2.54
Stock Label	2.25
Rialto Girl Grs Ft Co	2.32
Aloha Red O P Co	2.31
Talla-Ho S B Ft Ex	2.26
Victory Cal Cit U	1.92
Palmtree A H Ft Ex Arling S	1.60

ST. MICHAELS—Valle Vista, Grs' Ft Co., $2.42; American, $2.43; Emergency, Randolph Ft Co., $2.21.

CINCINNATI, April 27.—The market is strong on regular sizes. Five cars sold. Eight on track. Florida Brights, $2.25@2.80; Russets, 02.40@-2.80.
cool. Frost is predicted. Market is

NAVELS—

Victor S A Ft Ex Clare	2.60
Golden Gate Red G O Assn	2.75
Victor S A Ft Ex	2.65

LEMONS—

Pet S A Ft Ex San Dimas	1.70
Duck S A Ft Ex San Dimas	1.25

ST. LOUIS, April 27.—Weather is weak on account of other varieties of fruit. Six cars sold and eight on track.

NAVELS—

Newsboy R H Ft Ex Red	2.45
Foothill S A Ft Ex N Pom	2.50
E Highland E High Cit Assn	2.75
E Highland E High Cit Assn	2.40
Coral S B Ft Ex Yerkes	2.35
Belt R H Ft Ex Red	2.35
E Highland E High Cit Assn	2.50
Foothill (seeds) S A Ft Ex N Pom	2.40

LEMONS—Sunside, S Paula C F A., $1.45.

NEW YORK, April 24.—Nineteen cars of navels, one of jaffas, one of seedlings and one of lemons sold. The market is unchanged, with an active demand. Weather clear and warm.

NAVELS—

	Ave.
Golden Orchard Ind Ft Co	$2.50
Gabriella Ind Ft Co	2.20
Citrus Belle Ind Ft Co	1.90
Cerrito L V W Brown	2.55
Swastika L V W Brown	3.00
Iris D M Ft Ex	2.75
Violet D M Ft Ex	2.50
Stag ACG Ft Ex	3.25
Pointer ACG Ft Ex	2.45
Golden Rule Riv Ft Ex	2.80
Quail O K Ft Ex	2.45
Uncle Sam Riv Ft Ex	2.65
Pointer ACG Ft Ex	2.35

SEEDLINGS—

Mission Bells A B Chapman	2.50
M Memories A B Chapman	2.35
Citrus Belle Ind Ft Co	1.85

NAVELENCIAS—Pointer, ACG Ft Ex $2.50, $2.85, $2.90, $3.10, $2.75.

BLOODS—(Boxes) — Golden Rule, Riverside Ft Ex, $2.80; Iris, D M Ft Ex, $3.05; Violet, D M Ft Ex, $2.85; (half boxes), Quail, O K Ft Ex $1.25; Iris, D M Ft Ex $1.60; Violet, D M Ft Ex, $1.50.

TANGERINES—Golden Rule, Riverside Ft Ex, $1.50; (boxes) Golden Rule, $2.25; Quail, $1.55.

GRAPEFRUIT—Iris $3.30; Whittier, W Whittier, $2.05; (halves) Whittier, $1.35.

LEMONS—Independent, fancy, $2.70; Choice, $2.00.

BOSTON, April 24.—Twelve cars of oranges sold; twenty on track. Market is easier. Weather favorable.

NAVELS—

Red Clover Cov Ex Cov	2.55
Puritan San Bernar Ft Ex Rialto	2.70
Golden Rule Riv Ft Ex Riv	2.70
Family Q C Ft Ex Cor	2.60
Lochinvar R H Ft Ex E High	2.80

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¾ "	1.12 "	3.35	4.35
1 "	1.67 "	4.00	5.00
1¼ "	2.24 "	5.65	6.90
1½ "	2.68 "	6.50	8.00
2 "	3.61 "	9.00	11.00
2½ "	5.74 "	15.00	17.50
3 "	7.54 "	18.25	21.25
4 "	10.66 "	28.50	32.50
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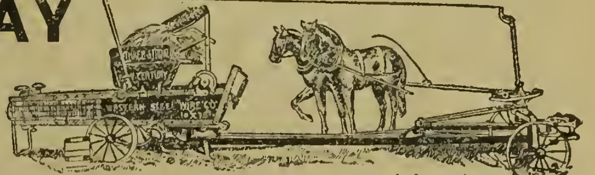

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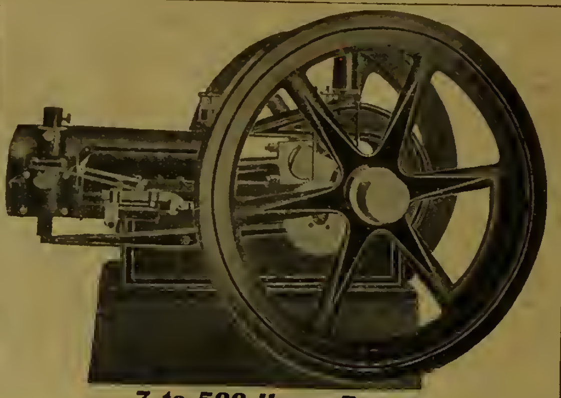

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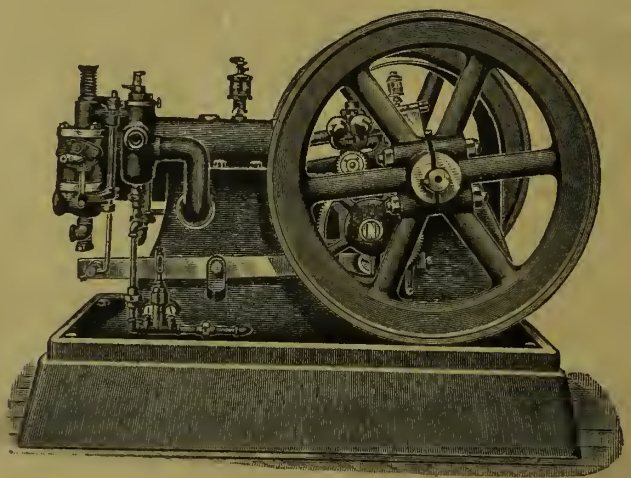

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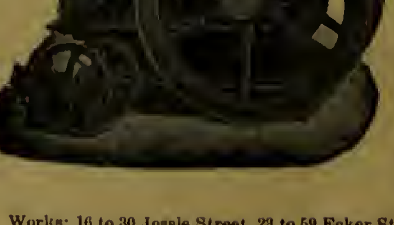

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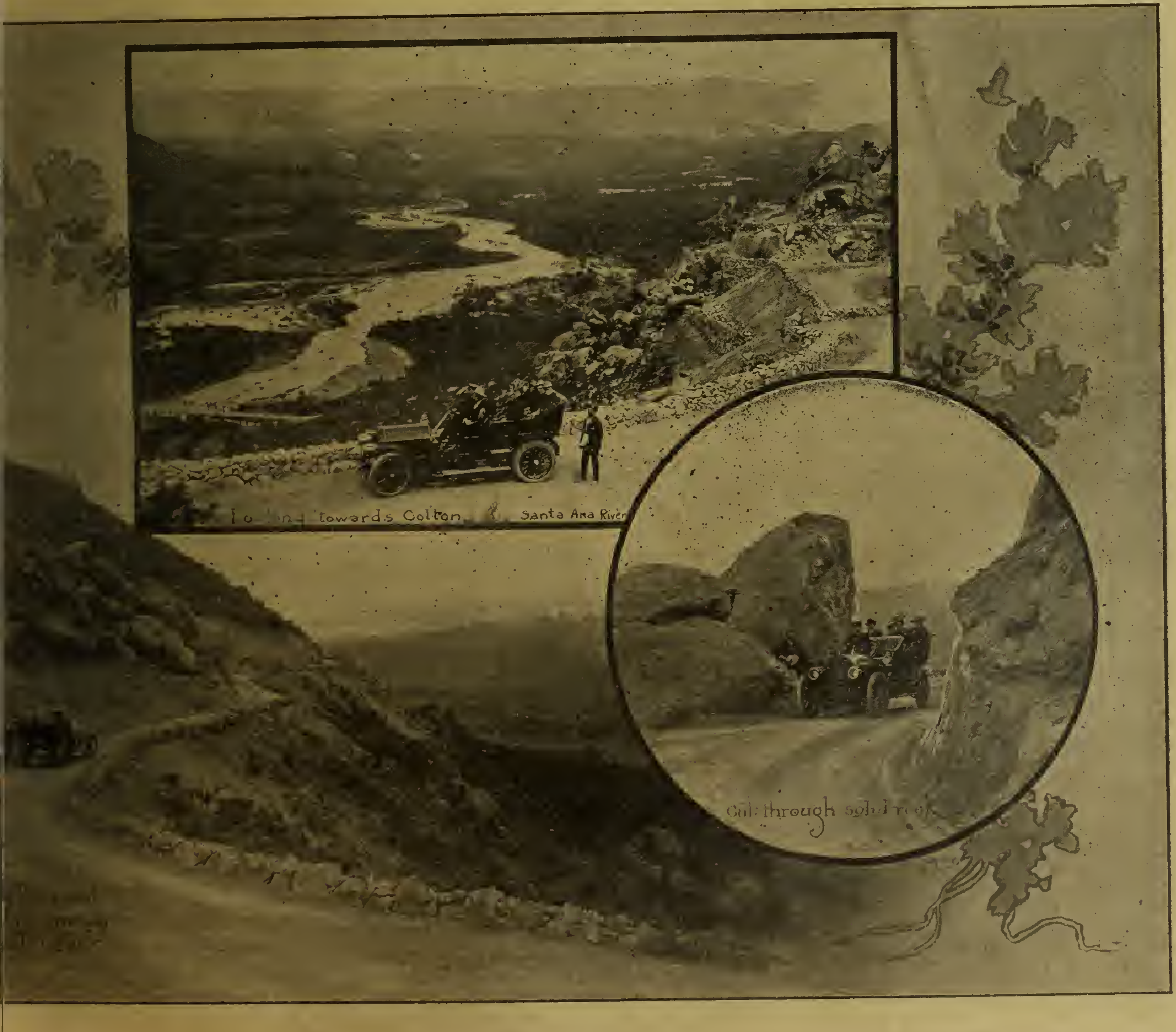

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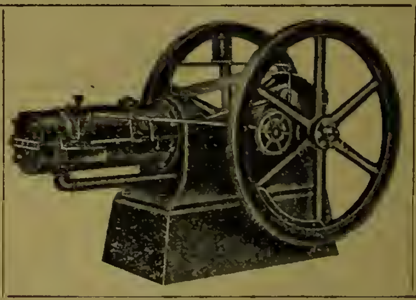

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alifornia Cultivator

XX—No. 19 Los Angeles, California, Thursday, May 7, 1908 Subscription $1 a Year

e State Fruit Growers' Convention

The Thirty-Fourth Session of the Convention of the Fruit Fruit Growers of This State a Success with Average Attendance

vention which should lead to advance-
to the fruit industry of this State
d last Friday at Riverside. Many of
ard were not present from the north-
the State. Many inquired "where is
as and Edward Berwick;" two of the
ses nearly always present, the former
for resolutions regarding transporta-
condemning the Southern Pacific com-
Berwick, of course, working tooth and
arcels post. Southern California was
sented, there being no fruit growing
importance without delegates in at-
There were also a number of dele-
m the north, San Francisco, Santa
ramento. Tulare, Kings, Sonoma and
nties being well represented.

rticultural Commissioners of various
vere present and not only had one ses-
he regular convention in their entire
it had one formal meeting on Tuesday

ople of Riverside extended the cour-
their city in a way which captured the
all attending. The reception on Wed-
ening. given by the women's clubs of
was a complete surprise to all delegates
heartily accepted by them, as showing
tality of the wholehearted people.

Starr Jordan of Stanford was present
ception and made a short address to
ates saying that he was present at the
ding the Indian Conference. He said
not see why he was chosen a delegate
convention, unless it be the fact that
t the head of a band of "savages of his
le referred to the various efforts of
dingand to the fact that he was a
of the committee whose business it is
into the breeding of human beings.
he said, was more embarrassing or more
to secure results from than the work
nts. The great difficulty there is not
get the people who will give up their
d allow them to be used as a plaything
our anxious to work out scietnific
of their own

were present the Mandolin Club of the
[illegible], which rendered several selec-
l each time were heartily encored. Sev-
er musical numbers were given, and cof-
light lunch were later served. It was
the best programs we have even seen
a similar reception

ic.

ol the best papers delivered at the con-
was that of Frank L. Palmer of North
. This will be given in full in a later
or and need not be referred to more ex-
ly than to give a remark made by Jas.
fter its reading. "That address, I con-
a classic in the literature of fertiliza-
t contains more information on the ques-
fertilization than any similar number of
I ever heard. It should be in the hands
ry fruit grower in this State."

yet there were present, to take advantage
paper and the fund of information which
almer must have devoted to the vast
t of study to acquire, only a mere handful
operahouse, perhaps 75, surely not more
00 people.

Commissioner's Address.

Commissioner Jeffrey in his annual address centered largely on one point rather than covering a large range of horticulture, as has been the custom in the past. It was more particularly an appeal for recognition of the fruit industry of the State by our legislature in making greater appropriation for its advancement. He called attention to the fact that:

"For the fiscal years 1907 to 1909, the State Agricultural Society secured for maintenance and buildings, $87,500, and for the State Fair $5000 and the gate receipts. The Dairy Bureau was given $11,100. For cereal improvement, $10,000 was appropriated and for tobacco culture $1000. These items foot up $114,600 appropriated by the last legislature almost exclusively for the advancement of the interests of the grain and stockmen. For the same fiscal years the State Horticultural Commission was given $35,000 for support and $12,000 for the insectary building and parasitic search. There was certainly no discrimination here in favor of the orchardists, for these figures show that the farm and stock industries were granted more than three dollars for every dollar appropriated to the promotion and protection of fruit growing. Neither were other landed industries, nor the outdoor sporting interests neglected, for the same legislature voted $51,000 for the use of the State Mining Bureau and $87,500 for the Fish Commission. Summing up these items we find $253,100 were voted to the field, mining and inland fish interests, as against the $47,000 devoted to the work of the State Commission of Horticulture is expected to do in the promotion and protection of an industry which has done more for the State than any other enterprise. We should sit in admiration at the feet of these interests. and while applauding their success in securing funds, learn of them how all things come to those who do not wait."

CACTI IN WHITE PARK, RIVERSIDE.

The committee appointed to consider the commissioner's address consisted of J. H. Reed, Geo. C. Roeding and C. E. Beemis, later reported favorably to taking steps to bring about the recognition of the best interest of the fruit grower by the State legislature and securing a more liberal appropriation to conduct its work.

The welcome by the mayor was a most fitting address and indicated the warmth of the reception to the members. In the absence of Gov. Gillett, Hon. Miguel Estudillo quoted Bryan as saying that "a farmer was a man who makes his money in the country and spends it in the city, and the horticulturist was a man who makes his money in the city and spends it in the country."

Secretary Isaac reported having taken up the resolutions passed at the Marysville convention having forwarded all such to the proper senators, representatives or heads of departments at Washington, and at some length read answers received.

One suggestion made by the convention did not meet with favor and was not acted upon was the endorsement of Dr. Wiley, head of the Bureau of Chemistry, and who has charge of the enforcement of the pure food law. While there can be no question that many of his acts are most heartily endorsed by parties who were attending, it was felt that the great injury done the industry of this State was such that endorsement at this time might be misconstrued, and the matter was allowed to drop.

The discussion of walnut blight and handling by Mr. Neff and Prof. Ramsey, was very interesting though does not apply to local conditions so much as did some of the discussions that followed it relating to the citrus fruits. The paper by Mr. Neff was given in last week's Cultivator.

A New Plan.

An effort was made in the program to change the former plan of conducting the meeting by allowing more time for the discussion. Some of these discussions were very helpful and conducted as the committee had planned. That is, one representative grower appointed to lead in the discussion directing others whom he may have previously selected to bring out the salient points which had been touched upon by the original paper. Some who were selected as leaders of the discussion apparently misunderstood this and followed with a long discussion or paper of their own, which took up the time allowed for the entire discussion. The best part of these conventions is always that devoted to the discussions from the floor of the house. There was but little of this at this convention.

Citrus Day.

Wednesday morning brought out representative attendance from all citrus section. The interest centered around the discussion of handling citrus fruits from orchard to the car. Messrs. Reed, Powell, Rumsey, Dreher, Chapman and others were present and entered into the discussion most fully. Like the lecture by Bob Burdette on "The Rise and Fall of a mustache," which, we believe, is never mentioned in the lecture, Mr. Rumsey spoke about packing-house equipment with nearly everything about equipment left out. This paper will, however, with many others not treated more fully, be given in a later Cultivator.

Mr. Elbert Lyon spoke on the Citrus Protective League, an organization of the entire industry. This organization has been formed slightly more than a year, and its work is the handling of such problems as tariff, rates with the railroad, securing prompter service, and other such features which may not be handled by the grower or shipper. It is supported by an assessment upon all associations which care to put into its treasury the sum of 10 cents on each car of fruit.

C. C. Chapman of Fullerton endorsed the league and urged its heartiest support by every fruit grower in the State. Railroads are recognizing the league and the fact that it is a representative one, and in touch with the entire citrus industry.

Continued on Page 526.

With the Citrus Growers

BUDDING ORANGE TREES.

THE active season for budding over orchard trees of various ages and sizes is now at hand, and as many trees are being worked over into new varieties or better strains of the same kinds. This latter operation is not so common as it used to be. Australian navels are not much in evidence now as they have been converted into better varieties. Many orchards have continued to bear a poor quality of fruit even though they are Washington navel and they might be profitably converted into a better strain of the same or else the now famous California Valencia.

A little over a year ago, Prof. Wickson addressed the orange growers of California on new varieties of oranges desirable for California. He stated that several years ago that there might be named four or five varieties of oranges that were considered desirable and in demand and they could at that time be obtained from the nurserymen in quantities, but today there are but two that are planted in commercial quantities. They are the Washington navel in its various types and the Valencia.

Mediterranean Sweet is an excellent late variety and brings good retruns per box, but there are many localities in which it is practically barren. Unfortunately for these cases, this variety is very difficult to successfully bud to other varieties during some seasons, and many failures have resulted.

The indiscriminate collection of buds for nursery trees has lowered the profits of many a grower far below what they should and might easily have been. Happily, this part of the growth of the citrus business has been nearly eliminated or passed and the intelligent selection of buds is insisted upon by all careful observers who have interest in the matter. One citrus grower of Southern California at one time had occasion to need some young trees and advertised for pedigreed stock and fortunately found some grown by a man who was particular on the same point and whose reliability was always unquestioned. He received more than double the usual price for these trees than was asked for straight nursery stock of the usual grade. While this was a typical example that all growers should live up to, at that time it was an exception, for one nurseryman in the same district had carefully selected buds from trees that produce a large percentage of prime fruit and had budded part of his stock to this. He failed to realize on these for the trouble and extra expense he had incurred, planters actually buying trees from stock grown from buds gathered promiscuously, because they were a few cents cheaper. This showed that some nurserymen were more progressive and alive to the best interests of the growers than the growers themselves, as a whole, proved to be. This condition will not hold as it has in the past, as the prospective planter has the advantage over those of the past, in that he is being educated along these lines by the initiated and the horticultural press. Information along this line was not obtainable a few years ago unless the prospective planter happened to hit upon those who had the advantages of experience and observation. Now the great majority of growers are awake to the importance of the matter and the novice can be reassured from many quarters that it is important to have pedigreed stock. By pedigreed stock we do not mean that which has been traced for several generations of trees, but buds from trees that have proven superior to the great majority of trees in the best groves. As an instance of what is liable to happen and has evidently happened in the past, we know of a Riverside orchard that was grown from the seedbed by one of our most careful and systematic men and a veteran nurseryman. The grove, which comprises something over 100 acres, was planted from selected buds, but scattered through this grove were a number of trees that produced inferior fruit and not up to standard in quantity in many cases. There were also many trees that are producing fruit that will run almost 100 per cent fancy and bear abundantly. The poor trees have all been rebudded. Had a nurseryman taken buds from this orchard promiscuously, there are many chances that he would have produced a mixed lot of nursery trees, while if buds were selected from the best trees in the grove, the chances for even a few inferior trees would have been remote.

During the craze to convert seedling groves into navels and even navels into Valencias, many mistakes were made that have proven costly. Some of the finest seedling groves, trees that would have paid better than anything which they could have been converted into during the life time of the owners, have been budded and cut off. There are still some handsome seedling groves that are the envy of some of the growers who have budded trees. In another generation, these magnificent trees will be the pride of the South.—J. W. Mills.

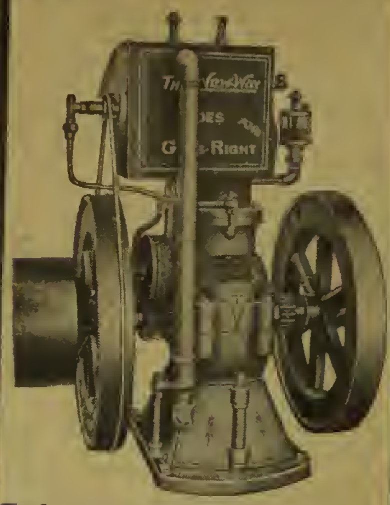
The California Lemon

Delivered at the 34th State Fruit Growers' Convention.
BY C. C. TEAGUE, SANTA PAULA.

PERHAPS no horticultural business in the State has made advances during the past few years as has the lemon business. Only a few years ago, the California lemon was in bad repute in the markets of the country on account of its poor keeping quality. This was largely due to ignorance on the part of the grower and shipper as to proper methods of growing, handling, curing, and packing, but as greater knowledge has come, the reputation of California lemons has steadily grown, until now the established brands are sought after in the markets where they are known, at prices considerably better than the best grade of foreigns. As the supply of good California lemons has increased, the Mediterranean lemon has been forced out of the West and Middle West markets, and its market is gradually narrowing in the Eastern and Atlantic States.

Overproduction.

The question that many growers are asking themselves is, "Is there danger



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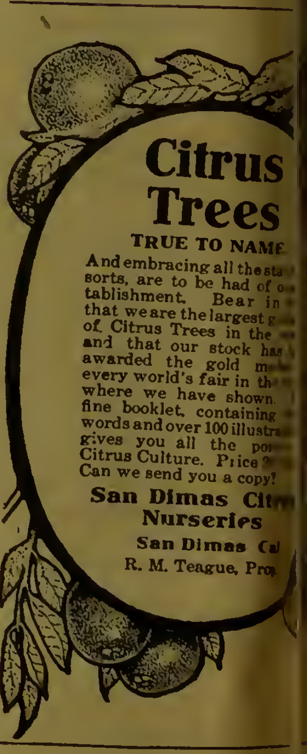

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am confident that it will be
the California lemon grower.
there is room for a greater
luction, what are the requi-
ccess?

Location.

Careful selection of location is very important. It should be as nearly frostless as possible. I believe that the sections ranging from 20 to 25 miles from the ocean are best adapted to lemon growing, just as the warm inland sections are best for the orange. These coast sections grow a much higher percentage of summer lemons, and the fruit is harder and firmer, although the inland section probably grows smoother fruit. The business, however, is being successfully engaged in, in the inland districts.

Soil and Water.

Care should be taken in the selection of the soil. It should be loamy and well drained. Adobe soil is not suitable on account of the liability of the tree to gum disease.

A good supply of pure water, comparatively free from alkali, is necessary.

Stock and Variety.

The selection of the stock for planting is important. If the soil is loamy and well drained, trees budded on sweet stock will do very well, but if it is very heavy, or the grade of the land is so slight that good drainage cannot be had, by all means plant sour stock, as trees budded on the latter will be much more resistent to gum disease under unfavorable conditions. The buds should come from prolific trees, producing good fruit. The Eureka and Lisbon have stood the test of time, as being the best suited to California conditions. The Eureka begins bearing earlier, produces more summer fruit, gets its fruit to size greener, and perhaps is the favorite with the average grower. The Lisbon, on the other hand, is a fine variety. It grows much larger, is hardier, more resistent to frost, the fruit smoother, and produces well as it grows older.

The tendency of the lemon tree is to grow sprawly. It should be pruned so as to grow compact and full of fruit wood and able to bear the tremendous load of fruit which it has to carry almost throughout the year.

The grove must be kept well irrigated, and in an even state of growth. This insures a smoother, better quality of fruit.

Thorough, deep cultivation is important throughout the summer months. If deep cultivation is practiced when the tree is young, there is no danger of injuring it by deep plowing or cultivating as it gets older.

Cover cropping should be practiced as the cheapest way of keeping up the humus content and good mechanical condition of the soil and of supplying nitrogen. As the tree gets older, it must also be fertilized, as it is impossible to gather from fifteen to twenty-five tons of fruit to the acre each year, and continue doing so without returning something to the soil.

Fruit Care.

Improper picking and handling of fruit is perhaps responsible for more bad results than any factor. If time and experience have proven anything in the lemon business, it is that the fruit must be carefully handled. It should be picked in as green a state as possible, and still get the size demanded by the trade. Advanced maturity—in other words, ripe lemons—means weak fruit and decay. Decay means red ink.

Study the Bugs.

The grove must be kept from insect pests, in order that it may be vigorous and thrifty. This can only be done by

Continued on page 543.

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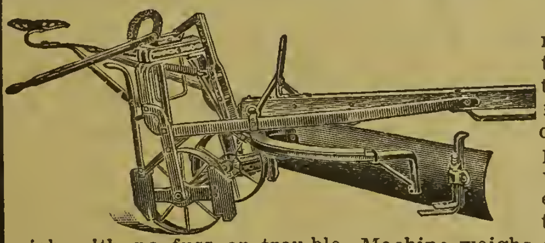

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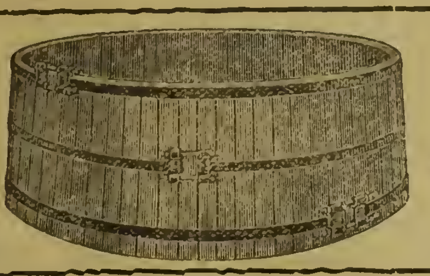

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General Manufacturing STOCKTON, CAL.

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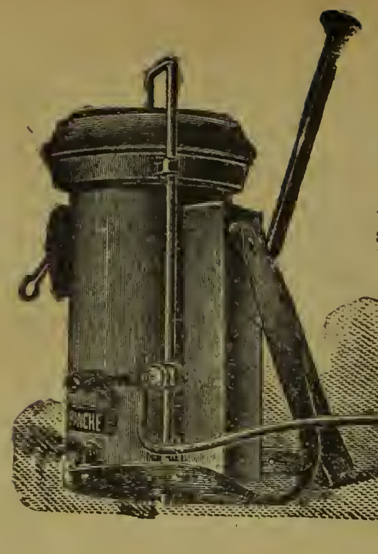

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THE

Vermorel Torpille Knapsack Sulphuring Machine

We could not supply the demand last season, so would advise you to place your orders now

The most satisfactory dust sprayer made. Easy to carry—easy to work—outlasts all others—no getting out of order—makes sulphuring **EASY WORK** and saves sulphur. Recommended by users as the **MOST** effective sprayer used for the purpose.

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We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

Write us.

Silva & Bergtholdt Company

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TREE TANGLEFOOT

A Sticky Preparation Applied Directly to the Bark of the Trees

Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm Wherever the Gypsy or Brown-tail Moths, Tussock Moths fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials.

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Manufacturers of Tanglefoot Fly Paper Grand Rapids, Michigan

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But see us about the Sulphur. We have just received from France 1000 kilos First and Second Grade, but both are sublimed and free from any particle of grit.

No. 1 is the best for ***Bleaching,*** where it is necessary to burn it, but it must be used cautiously for dry spraying.

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Write to us for sample and quantity price.

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WE PAY YOU TO INSPECT THESE HAY PRESSES.

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When you see for yourself how this machine has been built expressly for heavy baling on the coast, how strong it is, how easy it is on horses, what smooth bales it turns out, you will understand why we make such an offer. It has 7-in step-over, pull power, high baling chamber, positive plunger rebound; it stands up to its work, no taking off of wheels. Has record of 39 tons per day. We will ship you one to try. If you don't want it we will pay freight both ways. Write now.

ARNOTT & CO., 118 South Los Angeles St., LOS ANGELES, CALIF.

The Fruit Growers' Conver

Continued from page 523.

Secretary Kendall was also present, and spoke on the lines of work touched upon by the other speakers, and referred to the fact that in a case such as the white fly pest and other features which require united action of the entire industry, the league would be one of great strength. He suggested that in case of a revision of the tariff every effort should be made by the orange grower to secure an increase in the present tariff of one cent per pound.

Mr. Teague's address on "Handling California Lemons" may be found on the citrus page of this issue. Mr. Allen of San Diego, in discussing the paper, spoke of the report which was at one time general that California lemons are much poorer keepers than the imported lemon. This evil report, which gained credence with eastern buyers and California growers, not understanding the proper handling of the fruit, caused many trees to be rebudded to oranges and lessened the output. He felt that the time has now come when competition will necessitate curing and shipping of only the best fruit, and that this will give the California lemon a different standing than it heretofore held.

Diseases of Citrus.

Mr. LeRoy in handling the discussion of Prof. Smith's paper on health and disease of citrus trees did so very much as anticipated by the commissioner and the committee in arranging the program. Messrs. Koethen, Paine, Mills and Bishop joined in the discussion, which was summarized by Mr. LeRoy. One or two points brought out were that puffing of oranges might be induced by irregularity of irrigation. A tree once suffering from severe drouth is liable to give puffy fruit after a heavy irrigation. Die back of the orange may be reduced by spraying with a weak solution of Bordeaux, 4:4:80 being the formula use. Gum disease came in for a most thorough discussion, and the almost universal belief is that it is not contagious, and that it is from a constitutional condition of the tree induced by improper soil conditions. However, the point as to its being contagious taken by some was that so long as it may be contagious, take advantage of the doubt and prevent its spread so far as possible. It was almost universally conceded that sour stock where budded above the ground made the tree almost immune from foot rot.

State Farm.

Prof. Wickson gave an interesting talk as to the work of the State Farm at Davis; also referred to the opportunity of obtaining great good for the farmer at the laboratory at Whittier and the citrus station at Riverside. He referred to the delay in getting the buildings in working condition at Davis, and that it was due to conditions over which the management had no control, such as contractors failing to carry out contracts, also non-arrival of appliances expected to put various departments into working condition. He exhibited a chart of the farm and the location of the creamery, seed houses, pavilions, dormitories, etc. He said there had been no effort to provide expensive or imposing buildings, but all buildings had been constructed at moderate cost, and every effort was made to so fit them as to be as nearly perfect as possible.

County Commissioners' Day

Thursday was almost enti over to the work of the var ty commissioners and papers infection work. Prof. Woglu some length of his investig the hydro-cyanide acid gas t and referred to his efforts to some method by which a dosage could be given trees sizes. He said the great was in securing a man w h judgment to estimate th n cubic feet in a tree. Such born, not educated, for i sible for any one who cann ition estimate the amount of c required to give the requi without liability of injur trees, or of not killing with a dose. Mr. Maskew led in sion, calling upon Mes Goodrich, Canfield, Peas Bremner and others to aid cussion. In discussing th between red and yellow sc ple was presented to the or commissioners, on the and some declared positiv to be true red scale, oth with equal positiveness tha yellow scale. Doctors disa the members of the conven air as to the real differenc red and yellow scale.

One point brought out in cussion was that contracto against each other was one inferior fumigation. Further dosage should be heavier th ally given. The proport used for 100 cubic feet of sp ounce cyanide, one fluid oun ric acid, three fluid ounces w in case the tree is infested w purple scale this dose may b when the tree is to a certai dormant.

Sulphured Fruits.

Arthur R. Briggs of San gave a history on the Pure and its effect upon the drie dustry of this State which be quoted from at length i vator. In the discussion follo Mr. B. E. Hutchinson of Fr on the heartaches caused by losses made by an unwise this, the sulphur question, a it was opened last fall. had given more alarm than possible for the tariff quest to the fruit industry. Mr has been in the fruit curi for many years, and has methods of curing to avoid phur, if possible, but nothin found. Later the chem shown conclusively that th product contains no po stance. Prof. Wickson ad position taken by Mr. Hutch Mr Briggs, and said that process is the survival of from over one-third of experiment in fruit preserv

Soils and Fruits.

Prof. W. W. Mackie of th ment of Agriculture, in an relations between soils a said that handling of the soil to be one of the most tures connected with the agricul calling. It is also the least u and no method ever devised mad analysis of soils infallible. The

For Mehring Foot-Power Milking chines see O. J. Weber Co., 555-55 S. Los Angeles St., Los Angeles, Cal.

he soil itself And most
of all features there is
its content of humus is
This has been more nearly
he citrus grower than any
s in the introduction of
. James Mills, Mr. Koeth-
apman, and others joined
lackie in the points which
. out, excepting that Mr.
ad found some of the best
·oduced on heavy red soils,
f. Mackie had remarked, the
vas never an ideal soil for
'ture.
s remarks in the discussion
e more emphatic by the dis-
harts showing approximate
the various soil elements in
iverside, Fullerton, and Ven-
ntura soil showed a vastly
ontent of humus than either
hers. Humus is the key
ll unlock the wealth in the
nus is the bank with millions
, but which must keep its
inviolate without drawing
n is deposited.

ioners and Inspectors.

ssioner S. A. Pease of San
no county took charge of
afternoon. Messrs. Bemis of
Fowler of Tulare, and Cundiff
side touched upon the various
which will be enlarged upon

ly Control.

evening was given over to
con pictures and a talk by
nes of the State Commission-
ce on the white fly control.
ws showed the streets and
ls filled with broad, spreading
rees which later gave way to
iews showing only whitened
of those same trees. It was
a strong showing of the sac-
ade by the people of Oroville
rysville. It is no wonder that
mmissioners had hard work
g people to consent to the de-
n of their property in order to
ut this terrible pest. Those
w the pictures and know of
ditions prevailing at those two
ities will see that it be a long
fore any other sections of the
are infested in a similar man-

Grower.

Palmer's paper on fertilization
ts discussion by Prof. Smith
p the most of the time on Fri-
orning, and Prof. Mason's article
e growing was cut short in its
g. It was an interesting pre-
ion, and will furnish the basis
excellent article later.

ication.

wise the paper by Walter T.
le of Washington on the history
rification and life history of the
s given only in a short, modified
but will appear in full in the
ted report of the convention.

* * *

r days full of interest from
to finish and the effort to pack
ood things into the limits of
aper is a difficult one. It is im-
ble, in fact.
wever, the task is not yet done,
ome of the good material is al-
in type for next week.

* * *

e ride on Friday afternoon was
of the pleasantest features of
week, also most instructive, for
of the lessons of the week were
rced. The most emphatic was that of cover crops. Where a cloddy, intractable condition prevailed in one orchard, near it smooth surface of perfect tilth showed that something had been done to mellow the soil. We were told it had heavy cover crops for the past two years.

* * *

The vast acreage of thrifty oranges about Riverside were also of interest to those from other than citrus districts. It was a great revelation of the greatness of this industry of the Southland.

DRY FARMING.

Fred L. Boruff, manager of the Porter Ranch at San Fernando, exhibited at this office just before the recent rain, samples of grain grown on the ranch this dry season which is sufficient to give a great lesson to grain growers. One bunch of this grain measured over five feet in height, and was grown on land which was not in any sense moist land. We were told that other grains growing in a field immediately adjoining the one in which this grain grew ran only from one-fourth to one-half the height of that which was shown to us.

We were quick to congratulate Mr. Boruff on the fact that a season like this he was fortunate to be able to command irrigation water to grow such remarkable grain. He was equally prompt to inform us that not one drop of irrigation had been given the land on which it was grown. It was simply a case of thorough soil preparation before planting the seed.

Before planting last fall the land was disk-plowed to a depth of 10 inches and followed immediately with harrow and level. Following this the disk cultivator put the surface in perfect condition. Then the land was seeded with 120 pounds of barley, drilled in to a depth of 2½ inches and the drills 6 inches apart.

It cost to put the land in condition for the seed the sum of $2.25 per acre. It should have been mentioned that to the drill was a plank attached by chain to drag after and give the ground a smoothing. This grain should be an education to every farmer who contemplates growing grain another year. Let the ground be well prepared and the returns will justify the additional expense, especially if the year be a dry one; and if it is one of abundant rainfall will surely do no harm.

P. & O. CULTIVATORS.

The Parlin & Orendorff Co., of Canton, Ill., manufacture four leading lines, consisting of Plows, Harrows, Planters and Cultivators, and several subsidiary lines, such as Stalk Cutters, Potato Diggers, Beet Implements, Garden Implements, Barrel, Box and Basket Carts, etc.

The following is a partial list of their Cultivators: Walking, Riding, Combined Riding and Walking, Double Row; about twenty-five different styles, each one of which can be equipped with all styles of gangs and attachments. In addition to these there are many special styles, such as Disc, Listing, Beet, Orchard, One Horse and Garden; some of which are made either single or double row, and can be equipped with all kinds of attachments and appliances to meet the requirements of every condition of soils and crops in all sections of the country.

These lines are carried in stock not only at the factory at Canton, Illinois, but also at nearly forty branch and distributing houses in all parts of the country. The P. & O. Co. has a branch or distributing house in every important implement center in the United States, Canada and Mexico.

eam Separators, all sizes, all prices.
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t, Los Angeles.

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

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TRADE MARK
REX ROOFING
Flintkote

This Trade-Mark is on Every Roll of

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There are just two ways to tell REX Roofing—one is by the service it gives, and the other is by the Boy trade-mark on every roll. Imitations are made that have an outward resemblance to REX Flintkote, but you can't tell anything about the service until after the roofing is laid; so it will pay you to fix the Boy trade-mark in your mind before you start out to buy. It means advance assurance of satisfaction.

Write for Book and Samples—Free

The book will tell you all about REX Flintkote ROOFING and give photographs of buildings on which it is used, with letters of recommendation from users. The samples will show you what REX Flintkote ROOFING really is and enable you to test its properties.

J. A. & W. BIRD & CO., 89 India Street, Boston, Mass.
Pacific Coast Agents: W. P. Fuller & Co., San Francisco, Sacramento, Oakland, Stockton, Los Angeles, San Diego, Portland, Seattle, Tacoma, Spokane.

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You can "hit the nail on the head" by securing one of the well known Osborne machines. You will be perfectly satisfied with your purchase because you know you have the machine that will handle your harvest in the shortest time and with the most precision. No stops for repairs.

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Machine Banded Stave Pipe, Continuous Stave Pipe
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The Oldest Nurseries in Southern California. Established in 1868.
Tim Carroll, Proprietor Anaheim, Orange Co., Cal.

Washingtonia Robusta and Phoenix Canariensis Palms, any size from 1 to 8 feet, in large quantities.
Street and ornamental trees; Cypress and Guavas; Blue, Sugar, Rudis, Diversicolor, Robusta Tereticornis and Red Gums.
All eucalyptus and Cypress taken up with my patent transplanter, with a ball of earth around the roots and placed in rows in flats with sand sprinkled between for shipment.
Prices on application.

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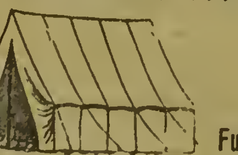

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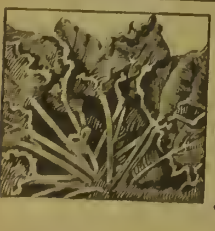

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1000 choice Navel Oranges, together with a few other Citrus Trees. April and May are best months to plant Rhubarb for heavy Crops next winter. It has never been equalled as a money maker. $1.50 per dozen, $6 per 100, $40 per 1000. Pedigreed plants.

J. B Wagner
The Berry and Rhubarb Specialist
Pasadena, California

Deciduous Fruit Cult

FRUIT EATING.

THERE is nothing more desirable from a fruit growers' standpoint than to have the public eat as much fruit as its capacity will warrant. Many individuals imagine that fruit does not agree with them under any circumstances and, no doubt, some people are constituted that way. We doubt, however, if even a small majority of the doubtful class really are so afflicted. There are certain individuals who are sent to the vineyards by their physicians to eat grapes with the bloom on fresh from the vines to cure certain ailments. There are others who acquire distress by doing this very thing. This is proof again that we all cannot eat fruit alike, and to get the most out of life, we should learn how to eat plenty of fruit. We are not educated along the winding path of the physician, but we have learned a thing or two and not the least of all that there are many ways of doing the same thing. We have found that best results often follow the eating of one kind of fruit at a time and eating skins and all of some kinds of fruit is not what it is cracked up to be. We have seen (and have even done the same thing ourselves) persons pick grapes from vines by the roadside, rub off as much dirt as possible and eat the balance with the grapes and then have a feeling that they have eaten too much when in reality they had not, had the dirt with the seeds of various ferment and other things been mixed with the fruit been previously rubbed off.

Right along this line we have before us a statement relating to results of some experiments. A young man was given some sterilized food and an examination some time afterward showed an entire absence of fermentation in the stomach fluid. He was given some unwashed grapes to eat, skins and all and a short time afterward found that the contents of the stomach were in an unnatural state of fermentation containing millions of microbes that hasten such a condition. It is known that the skins of fruit harbor great quantities of things that create unnatural conditions in the stomach and frequently cause a decomposition of the food before it has time to digest.

Now, for the sake of the consumer who has a tender stomach, and for the cause of the grower, we beg the eating public to learn the way to eat the greatest amount of fruit without bringing remorse. If fruit eaten from the tree distresses you, try washing it clean and then skinning it before eating.

APPLE "REVELATIONS."

As a take-off on some of the fool theories advanced by various "plant wizards," the following from an Eastern exchange will pass. It is in reply to a former communication suggesting that the way to grow seedless apples is to grow the tree from a cutting "upside down."

"I may say that I tested this method thoroughly myself some years ago, while living in Arkansas, and I never failed in an experiment made. In every case where one succeeds in the original propagation and secures a tree growing upside down, it always bears seedless fruit without fail.

"Another method which I followed was almost as surprising in its re-
sults, though not of so m
cal value. I mention it, h
account of its scientific in
expert propagators are
with the method known as
ding. A ring of bark is
clear around a young shoot
used as a stock. Anothe
ring is taken from the vari
propagated, and is fitted so
place exactly the ring ta
stock. Of course this ring
slit down one side in or
taken off. Well, one night
spring of 1890, I was hurryi
ish a job of ring-budding se
trees. In my rush, and part
the failing darkness, I made
take and got one of the bark
wrong side out. I did not
till some time in June, b
growing so nicely then that
go. Three years later it bore
fruits, like the scion, were w
out! The seeds were on
of the pears, while the skin w
the core commonly grows.

"I have one more case
which appears to me more
than the last, and of the u
tical value. But in order
altogether clear, I must firs
another matter. Every one
course how good apples are
especially baked apples.
who was Pennsylvania Dut
way of baking apples and po
ever, which beats anything I
She used to take out the cor
apple with a common tub
and insert a sausage into t
The apple and the sausage w
baked together, and it certa
make a delicious dish.

"Now, in the spring of 1895,
butchering a pig just at app
ing time. My brother, who w
ing me, cut off the pig's
threw it on the ground. It
my attention, and my mind b
of my horticultural scheme,
mediately took it, while yet
enclosed it in a tube of fre
bark taken from a Bailey Swee
tree, and used the whole as a
I grafted it into a vigorous Ben
tree standing near the cow b
my astonishment the scion g
had a peculiar look from th
and I was greatly worked up a
When it bore, in 1899, I was d
to find that each apple con
place of the ordinary core, a
sausage. The tree has born
antly every other year since,
have had baked sweet apple a
sage to our hearts' content.
drawback is that the sausa
seasoning, but I am exper
now on a line which I think
tirely remedy that small def

PEACH TREE BORE

A correspondent for an
giving his method of handl
peach tree borer says that
posing the roots and gettin
many worms as possible he
the following preparation, wh
says will prevent a new dep
eggs at the same place:

"I use lime sulphur spray,
strength, and add a little more
To each fifty gallons I add on
of crude carbolic acid and one
disaprene (arsenate of lead.) I a
this about April 20th, or, if s
late, about May 1st. Apply
whitewash brush or swab from
inches above ground down a
as dug away. Apply freely. I u
this last year and will again
year. My trees were badly inf
at places, but this year I seldom
a borer and I have not seen a sn
one since applying the remedy.
idea is not to kill the borer in
tree, but to prevent the borer m
from depositing her eggs at the p
of tree treated, and to make a s
cess this should be continued
more than one season. This is a
beneficial to the tree otherwise. I
left the ground away from the tre,
except what was cultivated back a
find a new bark growing over t
parts injured by borers."

trate of Soda

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Rhubarb
nts and Seed for sale in any quantity. War-
ted the genuine article. Orders filled promptly
A. L. Pratt, Ventura, Cal.

ED GUM and SUGAR GUM
ready for planting, taken from flats; roots dipped in mud, packed in moss. Prepaid to you by express. 100, $2.25. 500, $10.
HENRY SHAW
O RIVER ST. SANTA CRUZ, CAL.

The Vegetable Garden

THIS MONTH.

The vegetables are in need of plenty attention. Don't let the heat of the sun find any dryness or great injury will be done or crops lost. Keep the moisture there and allow no stoppage of growth, if best results are desired.

Peas, sweet corn, squash, pumpkins, cucumbers, melons, okra, beets, carrots, lettuce, radish, turnips, parsley and spinach seed may yet be planted. Plant onion sets, cabbage, sweet potatoes and tomato plants, asparagus, horseradish and rhubarb roots.

It is a little late, but Roselle or jelly plant may yet be planted. Get good seed and do not plant too thick. The plant grows quite large if not crowded. Rows may be either three or four feet apart and plants at least a foot apart in row.

CARBON BISULPHIDE.

These warm days require moisture the farmer and gardener in their warfare aginst noxious animal and vegetable life. It is very valuable and its vapors are heavier than the air. These vapors or gases are deadly, and, therefore, very destructive to all forms of animals, the stronger fumes affecting even man. It is used against rodents, insects affecting the underground part of plants, such as wooly aphis, ants and for destroying insects in stored grain, fruits and vegetabels.

In the case of root insects a small quantity may be poured into a hole made in the soil near the plant. This opening should then be closed with a ball of moist earth. A wet sack spread on the spot helps. The fumes are deadly to borers, affecting the collar or base of the stem of young peach trees, and the writer has used it repeatedly for the peach borer with the greatest satisfaction. With a spade or hoe a shallow, funnel-shaped cavity is made in the soil about the base of the stem. A teaspoonful of the liquid is then poured upon the soil in the cavity in two or three spots, or a circle six inches from the stem. The loose soil is then quickly heaped up around the stem and patted down with the back of the spade.

TOMATO CULTURE.

In a communication on tomato culture in Coachella valley, H. C. Lalmaugh says in the Valley News:

Do not try to grow too many plants on a small piece of land. The rows should be four and one-half to five feet apart, and the plants three to three and one-half feet apart in the rows. When they have started to grow nicely apply one tablespoon each of nitrate of soda and potash to each plant. Give them this application three or four times until the tomatoes begin to ripen. The soda will produce large thrifty vines which are necessary to protect the tomatoes from the sun and the potash will make smooth tomatoes.

Irrigating is a very important thing. Give them plenty of water until they are in full bloom; then give them two or three slight irrigations so they may become quite dry which will cause the tomatoes to set on the vines a good deal better. The first setting is where the profit is obtained and when they are once set give them plenty of water.

The Ornamental Garden

THIS MONTH.

These warm days requires moisture and occasional cultivation only to make a wonderful growth. Likewise a little shortage of water will cause loss of growth or even the death of the plant very quickly. Don't let a plant indicate need of moisture at any time. Always growing, always healthy.

Especially keep the lawn well wet. Blue grass will have a far better chance of keeping the joint grass and weeds out if given strong growth of its own at all times.

For fall flowering plant nasturtiums, phlox, centaurea, dianthus and mignonette. Palms may be planted now. Chrysanthemums, golden glow, golden rod, Shasta daisies and other like plants which have not been divided and planted should be attended to at once. If the day of planting is warm, protect by shading with newspaper or other shade. It is late for carnations, but if given good care they are yet all right.

Gladiolus should all be in the ground now. The writer planted his last bulbs a week ago and the rapidity with which the shoots came through the ground was astonishing. Other bulbs planted in the fall are now just coming into bloom and by this range of planting we hope to have a summer of those beautiful flowers. Remember that gladiolus appreciate plenty of moisture.

Hollyhock, amaryllis, agapanthus cannas will all do well if planted now. Don't let the bloom remain on Watsonnias as the bulbs will be stronger if the bloom is cut.

Cut the flowers on Shasta daisies as fast as they open fully. The closer you pick the more they bloom.

THE CANNA.

Deep planting will often be sufficient as the stalk has the support of the soil around it. Good, rich sandy loam and plenty of water are required. As soon as the spikes get to blooming well they may be cut and put in water when they will continue to grow and bloom as well as in the ground.

The canna in the large sorts is very pretty and showy. For tropical effect we have few plants that equal it. The foliage is in different colors, so one can have quite a variety.

Cannas should be planted somewhere in the background, for they grow so rank they hide other things. Their blooms are rather coarse, too, so they do not combine well with other flowers, or do well for cut flowers unless used in large bouquets and with large ferns or leaves. Nature shows this by giving the plant large leaves.

Do not let them go to seed if you want a long season of bloom. The old bare stems left after the bloom falls look ragged and bad, and should be cut out at the ends. Do not cut out the whole stalk, for it will send out a blooming branch from each joint until the whole stalk is exhausted. Then it, too, should be cut out.

"The more I see of town," says Farmer Wise, "the more I am satisfied with the country."

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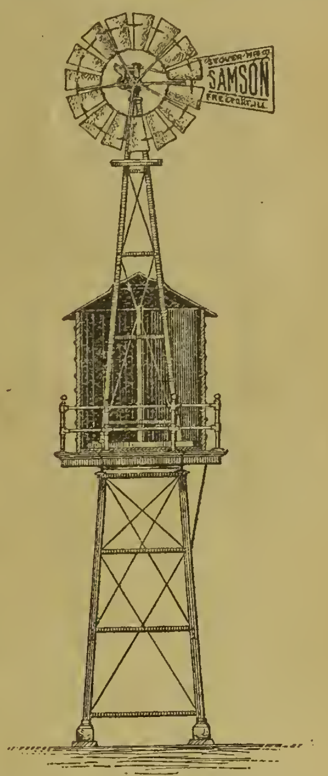

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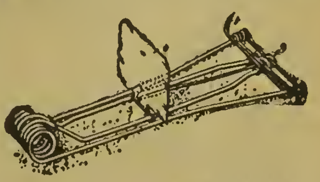

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A SUCCESSFUL MEETING.

One of the most successful conventions held under the direction of the State Commissioner or of the State Board of Horticulture was that just closed at Riverside. The attendance from other sections of the State was fully up to the average, and it is possible the attendance of the local people of Riverside was equal to that usually given by the local communities. The work of the local committee was complete in its attention to all details which go to make the convention a success and the comfort and convenience of the out-of-town delegates. This local committee was under the direction of James Mills as chairman, the members being H. B. Chase, J. H. Reed, C. E. Rumsey, and E. W. Holmes.

One little feature which, while it did not add especially to the comfort or convenience of the delgates, was the graceful act of supplying each delegate with a handsome silk badge. The meeting place was one of the most comfortable ever granted to a convention of this kind, and the hotel accommodations were perfect.

WHERE WERE THE LOCAL GROWERS?

One point which may be made regading the convention is brought out by the remark often made by members of the committee and those interested in the good name of Riverside that "we apologize to you for our local people not being represented more liberally in these meetings. We have taken our automobiles and gone to the orchards and urged them to come and in every way endeavored to secure a representative attendance of our local people, but they prefer to remain in their orchards instead of coming here learning of these the brightest minds in the fruit culturing fraternity of this State."

While this caused some concern and a little embarrassment on the part of the members of the local committee, it should not have done so. At least to no greater extent than it should the local committee wherever a State Convention may convene. We think Riverside attendance was fully up to the average, because it has always been a matter for apology on the part of local committees that their own people will not attend. In our experience in the past, we think perhaps Hanford was the most thoroughly roused in regard to the importance of the convention and gave liberal attendance on the part of its local men. But even there it might have been far better.

DON'T APPRECIATE ITS IMPORTANCE.

The excuses that may be offered by the farmer for not attending the conventions and institutes are doubtless many. But we presume the more usual one is lack of time. Truthfully, we think the more usual reason is the lack of appreciation of the great good which these conventions may have for the producer. Ordinarily the cultural newspapers give liberally of the discussion and papers of the convention which the farmer may take and read, and with practically no loss of time get the gist of the convention. But as good as this may be, it has no comparison to the face-to-face talk and the greater interest which is created in growers when they come in contact with the bigger men of the industry who have done things in a large way. In fact, we think that one of the most helpful features of any convention is the acquaintance formed between producers of different sections and the enthusiasm for better work which is there established. Most of our farmers have knowledge which they do not fully live up to, and it needs the impetus of such a convention to inspire better work. Besides this, there is, of course, a vast fund of knowledge brought out by the discussions of the papers which have been produced by some of the brightest of scientific men as well as by other farmers.

VIEWED THE ORCHARDS.

In addition to above points, the inspiration of seeing some of the best cared-for orchards in the State and discussing methods of culture, and more of planting, disinfection for insects and fungous diseases, and other points are of great value. The local committee provided the delegates with automobiles and showed them over the representative orange growing sections of Riverside. There were shown us orange trees four years old larger and thriftier looking than were six-year-old trees immediately across the street; soil, water, and other features provided by nature identical. The only difference between the two orchards was in the mental capacity of the owner or caretaker. The one was making a success of orange growing, the other practically a failure. The question naturally uppermost in the mind of the visiting orchardist is "why?" The answer was not hard to see.

THREE BOXES ON TWO-YEAR-OLDS.

One orchard pointed out to our party on this ride was a 2-year-old Eureka lemon grove, many trees in which will give three boxes of lemons per tree. This is not abnormal, but simply an indication of thorough care and good soil with plenty of water and the best of nursery trees. This orchard is the property of the Arlington Heights Fruit Company, and James Mills is the manager. Mills conducts orchards as he lives—on the high pressure basis. Why not all orchardists in the State grow fruit on this same plan?

WHICH IS MOST IMPORTANT?

That the Fish Commission of this State receives from the State Treasury nearly twice as much as does the Horticultural Commission certainly looks as if the sportsman is vastly favored to the detriment of the greatest of productive industries. Commissioner Jeffery said at the State Convention that the Fish Commissi ceives the sum of $87,500 this term, whi regular appropriation to the Horticultural mission is $35,000 plus $12,000 for the inse The State Mining Bureau also receives than horticulture. Its appropriation is $

Is not the fruit growing industry of mor portance to this State than is indicated by figures?

PREVENTING FIRES.

Fortunately, the recent showers will blessing to the vast forest ranges of Calif in deferring a little longer the danger fron est fires which is always before us fires are a great menace to the State, and sections of the central part of the State are ing with the government in employing addit fire wardens who will serve from May 15 October 1st. This additional protection is a wise move, but a protection still greater more effective will be that of the entire pe That is, let there be a live interest in the ter of fire prevention and let every one best to educate those who are going i mountains to guard against starting fir may cause untold damage. Many of the m astrous fires in California have been the of thoughtless leaving of a pleasure ca A few heavy fines have helped to remind thoughtless ones. If every camper, every to the mountains will constitute himself a service man to detect such careless ac will soon have far less of these needless

Every one who has a foot of land in this every well wisher of the State, is vitally ested. Let us show our interest.

WORM COSTS $11,000,000.

It has been estimated by leading ent gists that the United States annually $11,000,000 on account of the codling moth. average farmer's tree yields fruit on which 50 per cent is ruined by worms. Worse, i become so common that the ordinary f takes it for granted that it must necessar He is not awake to the fact that a remed in his own hands if he will but use it. S is now perfected so that the ordinary f may accomplish good results in his orchar yet he remains passive expecting the natu emy to come in time, and thus save him the tion of destroying the pest. Or, more pro the farmer thoughtlessly puts on the marke fruit as the worms spare and takes it for g that "Fate is agin him" in not giving him good fruit.

Shop Talk

EXTRA COPIES.—If you are one wh nizes a good article occasionally, and where it might do some good by passing just drop us a postal with the names whom you would like to have read it. We have a few extra, and will gladly distribu where they will do good.

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Pay in advance when convenient, and dress is changed let us know promptly.

THE CULTIVATOR.—It is very encour to receive praise—and to know that the of the editor are appreciated. We get 'kick also, and they are welcome, in a way, be they tell us what, in the paper, needs impro ment. We wish more would give us their ide If displeased, do not simply say "stop the pape but give us an idea of why. We know you again return to us later, unless you leave country, and in the meantime we want to ma things right. We are dealing with Pacific Co farming conditions, and will continue poundi along on those lines. We are in a position give our readers what is wanted, and we inte coming nearer to it than any other publicati It is money in your pocket to help along

icultural Notes of the Pacific Coast

rn California

roposes to have a model

ive committee of the
ssociation met in Sac-
week.

: rainfall and the north
done much damage to
in the Sacramento.

was held at Santa Rosa
for the purpose of or-
ate viticultural club.

s are to be installed on
along the Sacramento
eridian which will lift
gation.

of Sutter county are ju-
the announcement that
igation has been turned
er canal.

unty has 325,000 sheep,
it the second county in
ts. Kern county is the
unty of the State.

rnia Fruit Canners' As-
its annual meeting in
o recently, reported the
ful year in its history.

ers of Yuba and Sutter
a meeting on Saturday
was agreed that the an-
le should be set for May

nty has an ordinance
vagons carrying more
of freight from passing
s between December 1st

ma County Co-operative
ciation has declared war
San Francisco concern
rly handled the output of
tive.

s at Ferndale paid the
ices for March delivery:
cents; Capitol, 25 cents;
25 cents; Eel River, 24
ly Bluff, 24 cents; Pio-
ts; Riverside, 25 cents.

s been some contention
poultrymen of Petaluma
g the Sonoma County
ociation, feeling that it
rtain extent subduing the
etaluma as a poultry cen-

l growers of Yuba and
ties have organized and
l the following officers:
W. F Hoke; secretary,
adsworth; executive com-
F. Hoke, Mike Heenan, W.
. H. Alderman and and
es.

ox of cherries from Vaca-
orwarded Thursday, April
were of the Purple Guigna
is is earlier than last year
lays. The date then was
while in 1906 the first ship-
April 16th; in 1905, April
pril 30th; 1903, April 25th.

boldt County Creamery Ex-
ich is an organization of
nterests, has elected the
officers for the ensuing
sident, Harry Caltoft; first
nt, Charles Decarli; sec-
esident, J. E. Clausen; sec-
Neilsen; treasurer, H. A.
ther trustees, James Law-
Crowley, J. E. Gries, L. C.
I. Samuels, J. Abrahamsen
etersen.

Central California

Eggs at Spokane are now quoted at $6.00 per case.

The setting of fruit about Fresno promises great output.

Tulare grangers held a picnic at Dinuba on last Saturday.

Serious grass fires are already occurring near Bakersfield.

Much new machinery has just been added to the Turlock creamery.

Tulare Fair Association is planting 1000 eucalyptus on its grounds.

Much thinning of fruit will have to be given to Tulare county fruit.

The Tulare irrigation flume across St. Johns river went out last week.

Pumps are going into wells near Tulare for irrigation for the coming season.

It is estimated there are between 50,000 and 60,000 head of sneep in Tulare county.

The California Canneries Company has issued a circular urging careful thinning of fruit.

State forester Lull has appointed two fire wardens for Kern county and one additional for Tulare.

W. A. Beard of Sacramento addressed the citizens of Colusa on the Iron canyon irrigation project.

Some orchardists near Santa Clara report that the prune crop will be lighter than at first anticipated.

The Kings County Promotion Association is issuing a boolket regarding farming industries of that section.

One turkey producer in Stanislaus county expects to have 1500 fine, fat turkeys for the Thanksgiving trade.

The growth of the dairy industry about Tulare cals for a third creamery which will soon be erected in that city.

Grain and hay prospects in the neighborhood of Santa Rita and Castroville are much better than anticipated.

Apples and pears are looking exceptionally well in the Santa Clara Valley. The fruit is, however, showing a large per cent. of drops.

A canvass by fruit growers of judgment, in the orchards about Hanford, has developed the fact that almost no injury was done by the frost to the fruits.

Gov. Gillett has wired Secretary of State urging the retaining of David Lubin as a delegate of the United States to the International Institute in Italy.

Thorough winter irrigation and early spring cultivation is urged on the part of many orchardists as the only plan of securing best results from the orchards.

Central California Produce Company, a co-operative association at Turlock, is in successful operation and has a warehouse full of goods for its members.

A combination fruit wagon and truck has been invented by one San Jose fruit grower which is claimed to be one of the handiest and best wagons in the market.

The suit of the Evans Ditch Company against the Lakeside Ditch Company over the rights to take water from the Kaweah River has been decided in favor of the Evans chard this year.

Southern California

Highland has practically finished its shipping of navels.

The rain of last Saturday did much good to ranchers in Antelope valley.

San Bernardino will hold a street fair in that city beginning May 19th.

The Yuma valley expects the early establishing of a large asparagus cannery.

One contractor has agreed to sink ten wells at Palmdale in the Antelope valley.

Mr. Iams of Silsby writes: "Some cantaloupes setting but a large acreage will be very late and light crop."

A new cantaloupe packing house has been erected at Shepherd on the Holton Interurban Railroad, Imperial valley.

Orange county grain growers have found from this year's experience, at least, that the early sown grain is the winner.

At a floral parade at the festival to be held at Arrowhead, 25 forest rangers will appear in mountaineer's costume.

The Fullerton Vegetable Union has shipped its last car of sweet potatoes for this season. The output for the year was about 12,000 sacks.

Twenty thousand acres of eucalyptus will be planted by the Arlington Eucalyptus Timber Association on land purchased from the San Jacinto Land Company.

A forest experimental station of 2000 acres has been laid out in Verdugo Canyon near San Juan Capistrano. It will be in charge of the Department of Agriculture.

The acreage devoted to grape culture in the Coachella valley has greatly increased during the past year. It is estimated the 400 acres will begin bearing this season.

The recent rains have added materially to the irrigation supply in all the ditches. Santa Ana Valley Irrigation Company reports six extra heads flowing in the ditches.

Irrigators in District No 8, Imperial valley have complained bitterly that the California Development Company has failed to deliver sufficient water for the needs of the farmers.

Less complaint from decay of oranges has been made this year than since the shipment of oranges began in California. This is due to two reasons: The greater care of the orchardists and packers and the far better time made by the transportation companies.

The wage scale adopted by the cantaloupe growers of Imperial valley, is as follows: For white laborers, $2.25 for 10 hours' work with a 25 cents bonus a day for those who remain for the season; Japs $1.75 for 10 hours' work with a bonus of 25 cents per day for those who remain for the season.

The various melon associations of Imperial valley have formed a central exchange or organization for the handling of business for the following associations: Imperial Fruit and Produce Co., Imperial Cantaloupe Association, Keystone Cantaloupe Association, El Centro Fancy Melon Association, Interurban Association, El Centro Cantaloupe Association.

The Coast

Extensive orchard plantings have been made at Kiona, Washington.

Strawberries have been selling at Spokane at 50 cents pint during the past week.

Fruit inspectors at Pendleton, Ore., are waging a fierce war against San Jose scale.

President Hill of the Great Northern Railroad will preside over the apple show at Spokane next December.

The acreage of wheat at Alberta, Canada, will show an increase of about 20 per cent over that of last year.

The most thorough campaign for spraying for San Jose scale ever engaged in at Walla Walla, Washington, has just been finished.

The Farmers' Institute train is traveling over Eastern Washington this week and will hold meetings at Starbuck, Turner, Dayton and Walla Walla.

Four thousand acres of additional land are to be put "under the ditch" by extensive irrigation improvements being made in the rich Columbia valley in Washington.

Fruit inspectors at Wenatchee, Washington, have found that the winter spraying with sulphur and lime water did not destroy the twig borers and a second spraying is now offered.

Wenatchee, Washington, fruit growers are contracting with the power company for electricity for irrigation purposes. Six hundred horse power is desired.

Canada has served notice on the government of India that it is able to receive no more emigrants from that section owing to the present condition of the labor market.

The sugar acreage of Australia is decreasing at the present time at the rate of about 4000 acres per year. It is said to be caused by greater profitableness of dairying.

The Snake River district, near Colfax, Wash., reports that orchards have not been injured in the least by the frosts. The frost was so severe that cantaloupes under glass were frozen.

Hawaii now produces about $30,000,000 worth of sugar anually, and is not in favor of any tariff revision which looks toward lower duty on sugar, as she fears competition with Philippines.

Oregon hop growers are hopeful for the future of the industry, and but a few are reducing their acreage excepting in the neighborhood of Salem at which place about 2000 acres have been turned under.

More than $25,000 is offered in cash premiums for the first annual Colorado Interstate Fair and Exposition to be held in Denver the second week in September of this year. Over $150,000 will be expended on buildings and every structure will be thoroughly up-to-date and provided with every modern convenience.

The Union Pacific has established a rule which will permit wool in transit to stop at Omaha. It may be shipped at the convenience of the buyer and grower and stored at a central point until reshipment is desired. This has been secured through hard work of many of the wool growers of the Northwest Pacific Coast.

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St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

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Read the following telegram received from the Lewis & Clark Exposition at Portland:

"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

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management, disease and its prevention will be answered through

TURKEY TALK.

Among the American fowls the turkey is entitled to the first place, and is truly an American bird. He seems to be utterly unadapted to confinement, although there are instances where turkeys have been grown successfully in confinement. Yet to be profitable turkeys should be allowed freedom, for it is as natural for them to roam over fields and hunt a good part of their food as it is for a duck to take to water.

The bulk of the turkeys that are raised on the Pacific coast are grown in the grain-growing districts. For here is where the turkey seems most at home.

Give a flock of turkeys a grain field to forage on and they seem at home and contented. Where we consider giving turkeys free range, we must consider the enemies with which they have to contend.

While they will not stand confinement, it is best to confine them during the laying season, for unless we do they are left to steal their nests away and thus we loose many eggs and often poults, while if we keep them yarded until they lay at least then we can turn them out on range. The hens are very sly and care should be taken not to disturb them when they are laying or they will not go back to their nest, but will hunt a new one. If they get accustomed to their nest we can remove the eggs, replacing them with China or hens' eggs.

It is well to leave four or five china or hens' eggs in the nest. If the nest the hen selects is not protected, it should be fixed so as to afford some shelter for the hen while laying. If we yard our turkeys a part of the day a yard 50x100 feet will do for a flock of 20 hens; the fence, if it be wire, need not be over five feet high. We have known a flock of 10 or 12 hens and a tom to be yarded in a lot this size during the breeding season, with no bad results. But the growing stock need all the range they can get, and the mortality is not nearly so great if they have range, as when confined.

Varieties of Turkeys.

The domestic turkey is a descendant from the wild turkey, which is still found in many places on this continent. The wild turkeys have often been captured and have been very successfully crossed with the domestic turkey, restoring vigor without and permanent injury or loss as to size. The wild turkey resembles the bronze more closely than any other variety. The bronze and White Holland are the varieties most extensively bred on the coast. Of the two varieties the bronze being the larger and most popular.

The Narragansett turkey is quite a favorite in some sections of Rhode Island. The buff, black and slate are quite rare on the coast and a good colored specimen of the buff or slate is scarcely ever seen.

Hatching.

In hatching and rearing turkeys, the natural methods are used almost exclusively. We can use either turkey or chicken hens
and mothers. Many
hens for the first cl
does not lay as many
en, so it is not bes
after laying the fir
If we use hens for
put more than nine to
hen and not that m
able to cover th
period of incubation
though most people do
with hens, yet we h
hatches to be brough
bator. The trouble i
ing but raising.

Care of Young Turkey

Turkeys, like youn
no feed for the first
but it is best to give
good feed of whole
be contented and bro
they need to be kept
for the first four days

A pen for the pou
inch boards and sho
about 10 feet square
tain a coop for she
ought to have a boa
the soil be dry. Yo
very susceptible to
little turkeys should n
their freedom during
about ten days old.
they can be turned
day, care being taken
out in the dew or aft

Feed for Young Turk

There are so m
opinions for breeding
that besides giving wh
a good ration for yo
quote from Mrs. Mac
Hargrave, two of th
ful turkey raisers in

The first feed: Ha
chopped fine, including
may be added a litt
other good food is mil
little chopped lettuce
with plenty of fine
until about two weeks

Mrs. Hargrave's Ratio

"I feed poults every
til about ten days ol
light bread softened
(or water) squeezed
hard boiled eggs,
finely broken. This f
with bread and clabb
flake and egg, or chee
a little salt and pepper
tle ones are about a w
mixing a little whol
wheat, Indian corn, k
millet with the cooked f
learn to eat grain. Al
feed no more than they
clean each time. W
about a week old I
white bread and give t
what I call a brown, l
the same as white br
half white flour (a ch
do,) and the other half ab
parts of shorts and bran with
full or two of cornmeal. T
makes it crumble easily. Th
should be allowed to dry for a
two before feeding; if fed f
may choke the poults. I
drop the white bread and eg
feed instead the brown bre
cheese. When about six we

HICKS

Reds, Wyan-
Orpingtons,
inorcas, now
er 100. Brown
ns $11 per 100.
Leghorns $9
. Thousands
g all the time.

ONEER HATCHERY Co.
h Main Street, Los Angeles, California

Imported
esbury Ducks

ners at Crystal Palace and
leading shows in England.
at the State Fair, San Jose
and Oakland, 1906.
State Fair and San Jose, 1907.
k for sale and Eggs in season.

incent G. Huntley
Petaluma, California
Breeder of Buff and Black Orpingtons
and Barred Plymouth Rocks.

ULLIVAN'S FAMOUS
COMMONWEALTH STRAIN
balance of season half price.
ing stock at the price of market
This is your chance. Write us
it. Mr. & Mrs. W. S. Sullivan
Agnew, Santa Clara Co., Cal.

aldwin's White Leghorns
t prizes San Jose '06, and State Fair '07
Three 1sts and special, San Jose, '07.
1s s, three 2nds and $50 Cup best display
Petaluma '07.
d for free '08 Catalogue and price list.
Frank E. Baldwin
ashington Ave. - San Jose, Cal.

HOMERS
Prolific Breeders
Winner of 1st pen at Breeders' Show
Satisfaction Guaranteed
C. E. Bunker
San Jacinto, Cal.

st Side Poultry Yards
Barred Rock and Buff Orphington Eggs
hatched to order. We have taken the ut-
are in procuring pure stock, also selected
"Hogan System". Visitors and corres-
nee solicited.
J. Look *No. 16 Hancock St. E. San Jose, Cal.*

WINSLOW'S REDS The bird for the Farmer and Fancier.
Write for 1908 Mating list.
Red Feather Poultry Yards
Dr. C. E. Winslow, Monrovia, Cal. Send stamp for Red Standard.

ST SAN GABRIEL EGG RANCH
White Leghorn and Barred Rock Eggs for
ng, $1 per 13, $5 per 100. Won 12 ribbons
Breeders Show on White Leghorns. Prize
rs, $2 per 13. All hens in our breeding pens
lected, 2-years-old, and are great egg pro-
s.
nson & Johnson, San Gabriel, Cal.
abriel Car to Masonic Home then 2 blocks South

GEORGE W. POPPELWELL
Successor to C. H. Robbins
eder of White Leghorns, Black Minorcas
Barred Plymouth Rocks. Eggs fo hatch-
$2 to $5 per setting. Single birds, trios
breeding pens a specialty
ds at Ranch (10) Phone Main 1583
3 W. Fremont St., W. Stockton, Cal.

FOR SALE
choice White Leghorn Hens full
d, one year old and in fine condition,
declaring dividends every day now.
A. P. HENNING
Box 225 Cottonwood, Shasta Co., Cal.

FOR SALE
dozen well-bred, Great Layers,
te Minorca Hens. One-year-old.
00 per dozen. Five males $2.50 each.
S. W. Morgan
Sunnyside, Cal.

oney may make the mare go, but
do know that the going of the
e makes money.

they have become accustomed to the grain food, which, since they were three weeks old, has been kept by them in troughs in the coops so constructed that the little turkeys can get in and the older fowls kept out. By the time the poults are nine or ten weeks old, I have reduced the soft or cooked feed to once or twice a day. By September the older poults are dependent upon grain food and range.

For fattening I had good results with a mixture of grains proportioned as follows: Two bushels whole corn; two bushels cracked corn; one bushel oats; one bushel Kaffir corn."

Mrs. Mackey's Ration:

"The first feed I give is milk curd, with onion tops and tongue or peppergrass, cut very fine, seasoned with black pepper. I give this morning, noon and night. It is a mistake to feed very often, or too much while they are young. If poults are fed three times a day from the time they the hatched until they are grown, they are fed often enough. Yet they must have something to pick at all the time, hence I would advise that they be kept in a grass yard where grass is kept low.

"As they grow older I add other things to the food. Table scraps are splendid for them. If I have infertile incubator eggs I boil them and mix with the other food, but never use fresh eggs, simply because I do not consider it necessary. I give milk instead of drinking water, when it is plentiful. I keep grit constantly before them. Wheat is one of the finest feds for young turkeys. Cracked corn is splendid when they are older. My rule has been to mix grains of wheat in the food from the first, so that when they are old enough to change from curd to grain it will not be so hard to change foods."

AROUND THE YARDS.

A turkey will cover from 15 to 20 eggs.

* * *

Turkey eggs are usualy fertile and generally hatch well.

* * *

Turkey hens are profitable until about five years old.

* * *

Keep grit and charcoal before the poults at all times.

* * *

Turkey hens protect their young better than chicken hens.

* * *

In mating turkeys one male to ten or twelve females is about right.

* * *

Lice is the little turkey's worst enemy, so keep them free from this pest.

* * *

The success in feeding young turkeys seems to be in feeding often, but not overfeeding.

Eggs stand next to milk in available food material for the sick, as they are easily digested and absorbed if raw or properly prepared, says the Southern Poultry Courier. Physiological chemists tell us that 97 per cent of the albumen and 94 per cent of the fat are absorbed into the blood stream. These chemists tell us that eggs are a complete food for all young mammals, as they contain in correct proportion the tissue-building material, in form of albumen (white) and mineral matter, in the form of phosphorous, lime, potassium, iron and sulphur; the heat and energy material in the form of oil (fat) in the yolk, and a large amount of water.

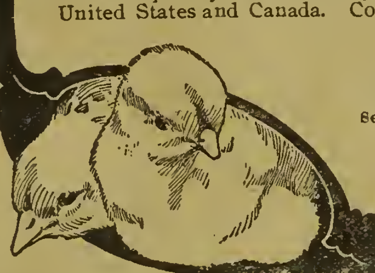
Take Care of the Chicks

It is said there is a mortality of 50% among young chicks every spring. This means a tremendous loss. Think how great the poultry industry would be if even a fraction of these lost chicks were saved to become egg producers or fat market fowls. *Care* and *proper feeding* at the time of hatching and during the first days of the chick's life are absolutely essential to its well-being.

Begin as soon as the chick takes food regularly and give a little of Dr. Hess Poultry Pan-a-ce-a once a day in soft food. If you do this and chicks are kept dry and warm, your losses will be very slight.

DR. HESS
Poultry PAN-A-CE-A

was formulated by Dr. Hess (M. D., D. V. S.) for the express purpose of meeting and overcoming the hundred and one ills that perplex the poultryman. While it is beneficial in many ways and also destroys germs, its greatest worth is as an assistant to the digestive organs Its use makes the largest possible per cent of food available for healthy growth. Hence chicks mature early, hens lay many eggs, and market birds fat quickly. Endorsed by the most prominent poultry men in the United States and Canada. Costs but a penny a day for 30 hens.



Sold on a written Guarantee.
1½ lbs. 35c. 5 lbs. 85c.
12 lbs. $1.75. 25 lb. pail $3.50.
Send two cents for Dr. Hess 48-page Poultry Book, free.
DR. HESS & CLARK,
Ashland, Ohio,
INSTANT LOUSE KILLER KILLS LICE.
THE PETALUMA INCUBATOR CO.,
Petaluma, Cal., Pacific Coast Distributers.

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LOS ANGELES INCUBATORS
RELIEVE POULTRYMEN OF HATCHING WORRY.

PEERLESS CHICK FEED
RAISES
EVERY CHICK
EVERY TIME

PEERLESS EGG FOOD
PRODUCES
PLENTY OF EGGS
ALL THE TIME

Lee's Carbolic Sheep Dip
IS GUARANTEED.

Henry Albers Co., 534 So. Main Los Angeles

White Wyandottes Exclusively
Our strain have won in strong competition on the Pacific Coast
Day old Chicks, Incubator lots our Specialty, $15 per 100
Booking must be made in advanee. *Stock and Eggs For Sale.* Send for our new Catalogue
GEORGE W GRACE & SON. RURAL 21 CAPITOL AVE. BOX 98, SAN JOSE, CAL.

Mammoth Bronze Turkeys---S. C. White Leghorns
From our large, vigorous White Leghorns, the largest eggs produeed by any Leghorn breeder in the West. $1.50 for 15, $7.00 for 100 and $60 for 1000.
To make room for young stock we must dispose of a large number of this year's breeding birds. They are two years old and the pick of our flock and must be sold by May 1st. Write us your needs. The price is right.
STUHR-WILLIAMSON POULTRY COMPANY
378 Bandini Ave. Home Phone 1490 Riverside, Cal.

BLOEM & VANDERGOOT
Black and White Poultry Yards
Successors to Ed. M. Burnell
Columbian Wyandottes exclusively. A few choice trios for sale. Eggs per setting $3.00 and $5.00.
Eggs per 100, $15 and $20. Stock a matter of correspondence. LOCK BOX 51, GLENDORA, CAL.

Trap-Nested White Wyandottes
That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen, contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribbons, all at Los Angeles County Poultry Association Show, December 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah. Hens and Pullets, $15 and $20 per dozen.
MISSION VIEW POULTRY RANCH, MRS. C. D. HUBBARD, SAN FERNANDO, CAL.

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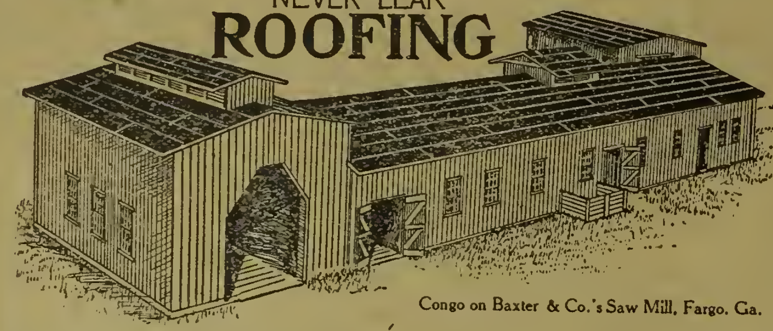


CONGO
"NEVER-LEAK"
ROOFING

Congo on Baxter & Co.'s Saw Mill, Fargo, Ga.

Send for Free Sample—To-day!

Does your roof leak? Then get Congo.

Congo is the best ready roofing ever offered to the man who is looking for something **good, reliable and not too expensive.**

It is called "never-leak" Roofing. This sounds like a big claim to make, **but we know Congo.**

Try it. Cover that old roof, which you have repaired for years, with Congo, and you'll find it the most durable, **proof-against-everything** kind of roofing made.

Economical? Yes, for your bills for repairs on other kinds of roofs in a few years would pay for Congo. It's not affected by heat, cold, rain or snow. It is soft and pliable,—like rubber—but infinitely superior because it will not crack, buckle or shrink. Congo will give maximum service at minimum cost. **Cheaper than shingles and will outlast them.**

Isn't Congo worth investigating?

Write for a Free Sample. **Test it.** Soak it in water as long as you like. Water can't hurt Congo. To heat, cold and acid fumes it is also impervious.

Congo is the roof you want. Let us hear from you.

UNITED ROOFING AND M'F'G. CO.
Successors to Buchanan Foster Co.
567 West End Trust Bldg, Philadelphia, Pa.
Chicago **San Francisco**

West Coast Chick Feed

Don't be induced to take others "just as good." They cost less to make and dealers make more profit on them. You can't afford to feed the little ones anything but pure, wholesome feed, properly balanced to keep them healthy and make them grow. "West Coast" is just this and all pure feed to be fed dry; no filler, no waste, hence really the cheapest. The biggest seller because the best made. For sale by many dealers; if not by yours send direct to us.

WEST COAST MILL
818 San Fernando St. (Through to Alameda) **Los Angeles, Cal.**

Little Chicks should be fed on **Excelsior Chick Food**

prepared from clean, sound grains, seeds, beef scraps and charcoal in proportions to make a well balanced ration and produce strong, healthy chicks and keep them continually growing. For sale by all dealers and grocers. Take no other.

Excelsior Cereal Milling Company
242 Central Ave., Los Angeles

Home Made Ice Cream and Candy

Appeals to Everyone in the Family

Has been going since the very day of publication. Full of all that is known about Home Made Ice Cream and Candy. Nearly Three Hundred Formulas.

Make 60 cent Chocolates for 15 cents
Taffies Nut Candies Butterscotch Everything

A 50c Book **You Get It Free With the Cultivator** For 1 Year's Subscription

Paid in advance. For old or new names who pay for the coming year. Enclose a $1.00 bill and ask for the "Candy Book." Address

Cultivator Pub. Co., Los Angeles, Cal.

CAUSE AND TREATMENT OF CANKER.

Canker frequently follows a severe cold or attack of roup. It may also be caused by roosting in damp quarters, scratching in moldy litter or being fed or having access to damaged or moldy grain. The symptoms are very plain: usually yellow, cheese-like growths in the corners of the mouth, roof of the mouth or on the tongue, though occasionally this matter appears in the wattles, face or around the eyes. The first thing to do is to remove the cause. The birds affected should be isolated and the poultry house and equipment cleaned and disinfected. A simple preventive which is usually effective is a slight film of kerosene on the top of the drinking water. Oftimes this will prevent the disease appearing further in the flock if other conditions are attended to. The fowls that are isolated should have the canker removed with a wooden stick and the spot treated with undiluted creolin. All matter removed should be very carefully burned so it will not cause trouble. Each fowl may be given a tablet of mercury protiodide one one-thousandth of a grain, drug strength, morning and evening, though clean, dry, well-ventilated quarters and good food will frequently enable the bird to recover if the canker spots are removed as advised.—Western Farmer.

THE EFFICACY OF DUST BATHS.

The natural way by which fowls cleanse their bodies and keep them free from lice and mites is by means of dust baths. In providing these baths, it is well to bear in mind the specific points which prompt their use. While exercise is an important thing provided by the baths, the main good they do is to relieve the birds from lice and mites, which would otherwise make their lives miserable. The birds roll and scratch and fluff their feathers until the fine dust is thoroughly worked through their plumage and down to the skin. The insects referred to breathe through pores in their bodies and the fine particles of dust close these up and the vermin die.

It will be seen, therefore, that the dust bath must be composed of very fine dust to be effective. The dryer and finer it is the better the fowls will like it and the more good it will do them. Some people mix fine screened coal or wood ashes with road dust and think that the combination is better than either one alone. A little tobacco dust mixed with the wallowing material is also a good thing as it aids in exterminating vermin.

HENS NEED VARIETY.

Hens require a variety of food. No one kind of food will do. If you have oats or corn feed a little to them occasionally. Then give them all the alfalfa or clover or other green stuff that you can get. It is important also that you should have grit before them all the time. Prof. Dryden, who is an authority on poultry matters, recommends that grain should be scattered in a litter of straw so that the chickens will have to scratch for it. The skillful feeder watches his hens and feeds them each day just what they want and no more.—Deseret Farmer.

Medium sized turkeys are better than extra large ones where the chief object is the production of turkeys for market.

Warrante
to give satisfact

GOMBAULT'S
CAUSTIC BALSA

A safe, speedy and positive cure for

Curb, Splint, Sweeny, Capped
Strained Tendons, Founder, Wind
and all lameness from Spavin, Ring
and other bony tumors. Cures all
diseases or Parasites, Thrush, Diphth
Removes all Bunches from Horse
Cattle.

As a **HUMAN REMEDY** for R
matism, Sprains, Sore Throat, e
is invaluable.

Every bottle of **Caustic Balsam**
Warranted to give satisfaction. Price
per bottle. Sold by druggists, or sent
press, charges paid, with full directions
use. Send for descriptive circulars, tes
nials, etc. Address

THE LAWRENCE-WILLIAMS COMPANY, Cleveland,

CHICK

Rocks, Reds,
dottes, Orpin
Black Minorca
$12.50 per 100.
Leghorns, $11 p
White Leghor
per 100. Tho
hatching all the

PIONEER HATCHERY CO
711 South Main Street, Los Angeles, Ca

Petaluma Hatche

All the leading varieties of c
Pure bred White Leghorns a spec

L. W. CLARK
615 Main Street, Petaluma, Cali

Water Pipe Che

25 CAR LOADS NOW BEI
UNLOADED

250,000 feet of this shipment is
ond-hand pipe, practically as goo
new, and is now on sale at a big
count by the Adams Pipe Work
Bay street. Sizes and prices: ¼
1½ cents per foot; 3-8 inch, 2 cents
foot; ½ inch, 2½ cents per fo
inch 3½ cents per foot; 1 inc
cents per foot; 1¼ inch, 6 cen
foot; 1½ inch, 7 cents per foot,
9¾ cents per foot; 2½ inch,
per foot; 3 inch, 18 cents per
inch, 20 cents per foot; 4 inch,
per foot.

Oil well casing prices and s
inch, 7 cents per foot; 2½ inch, 9 c
per foot; 3 inch, 13½ cents per
3¼ inch, 15 cents per foot; 3½
17 cents per foot; 4 inch, 18 ce
foot. All pipe is carefully insp
new coupling and new thread are
on every piece, every joint is gu
teed to be first-class, serviceable
This pipe is sold in any amount;
orders are given the same atten
as large ones. Mail orders pro
filled. To reach the Adams
Works, take car marked Pacific B
vard, starting east on 7th St
Broadway. All lines will transfe
East 7th St. new line. Ask condu
to let you off at Bay St., and go
half-block. Phones, A1917, Broad
1264.

NOTICE OF DISSOLUTION OF PA NERSHIP.

Notice is hereby given that the co-
nership heretofore existing between
Steadman and H. A. Perkins under
firm name of Cultivator Publishing
is dissolved by mutual consent, J.
Steadman retiring. The business wi
continued under the same name, Cult
tor Publishing Co., which assume
liabilities and collect all outstanding
counts. Signed this 8th day of A
1906, at Los Angeles, Cal.

J. J. Steadma
H. A. Perki

Stock and Dairy

F THE HORSE.

he errors in caring for
ly horse is that it is
wash him down with
hair and skin are full
l that makes them re-
er. Washing down a
cleanse him but leaves
and staring. Nothing
comb and good stiff
ıove dirt from his skin
he dapples on his burn-
The well groomed ani-
er and more lively than
of dirt. No matter how
an ill conditioned horse
on flesh or keep in
ı a colt is taken up at
age and groomed daily
ins in size rapidly over
eft running at pasture,
se that have shelter and
Grooming keeps off lice
ces mange impossible to
hold. The hair remains
ne and the owner can
roud over the "personal"
of his horse. Who does
hold the reins over a
groomed horse that side-
the road, dancing at
g leaf, full of joy of life,
p steady as a soldier un-
en a fussing auto or a
shoots by him on the
y road.

.

spirits of a good horse
a delightful companion;
never lonely while he is
spirits mean nerve force,
ess, and are an indication
ce, the hot-blooded danc-
g horse is often a safer
the cold, sluggish horse
"Ma and the girls." I
d that told me of her
tleness as follows: "Why,
noa' he would stand on the
ack until the train struck
ailed and said to her as she
tened to the buggy, while
olt whirled us around the
ald: "I am always afraid
gentle a horse; a horse
ave sense enough to
from danger." Less than a
erwards, this quiet horse
self. The groom held him
toffice at twilight; an owl
horse took to kicking and
breaking the carriage and
d down a steep enbank-
was so injured that he had
rcifuly disposed of. While
ing colt is now a steady
nimal aged twelve years.

ing a Horse.

t may be desirable to bring
into good form for the road.
weak and thin, the pleasant-
to do is to give him a corral
r three days and feed him on
ving him an hour's groom-
day. Then after a few days
m far and fast enough to
t a liberal sweat. He will
o condition more quickly than
o stand and grow soggy fat.
eat makes good the assimila-
the food by caring off the
apidly and the muscles harden,
being deposited in them, in-
f on them. In people as well
als having the fat in the mus-
ot weakening like carrying as
weight on the outside of a
muscle. When horses are little used, they go out of condition quickly, the skin does not receive its bathing of sweat from the inside out. The police talk of sweating a suspected criminal when they make him tell all his secrets; mentally, it brings out all latent "cussedness," so is it that sweating brings out of the horse all his impurities. The same is as good a cure for many of the troubles of sedentary people as it is for horses.

Stable.

When the horse comes in from the road, after stripping off the harnness, stand him in a sunny, sheltered place until his back dries; if it is at all cold or windy then throw over him a blanket. Begin by wiping his legs dry, rubbing them with a piece of sacking; should they be crusted with mud moisten it with a wet sponge and wipe dry. Unless the roads have been very heavy the wiping dry will take the surface mud, enough to make it easy to dry them thoroughly. The most of the time the roads in California are only dusty, and the wiping removes that until the time for the brushing. By this time the sweat should be attended to on the back and sides, scrape it off if very profuse, then wipe the hair dry around the parts where the harness has rested, by the time these are wiped the horse is cool enough to have a nip of water and to be put in for a little hay. After an hour's time feed and water him fully and then groom him carefully using the curry comb to remove sweat and finishing with the brush. A blanket in winter and a light sheet in the summer will help to keep him clean in the stable. Brush the mane and tail out carefully and take the tail in the hand and examine for loose straws. The feet should have the manure removed; particular people often have the horses' hoofs blackened for carriage use. Care in grooming will save doctor bills, for horses are rarely out of condition that receive regular grooming and feeding. When the man wishes to give a horse condition powders, he had best buy a new set of cury combs and see that the horse reecives a full thirty minutes grooming every morning.

Clipping.

The only way to save time on grooming is to clip the horses. This is often a benefit when the horse's hair tends to grow long. A clipped horse is wiped off and then brushed. The coarse sacks that imported salt comes in are excellent for this purpose. They can be purchased at the large groceries for ten cents each. The work horses on a ranch are best clipped for they come in covered with dirt and both man and horse is tired. It is almost impossible to get them well groomed either morning or evening. They come in covered with dust and drenched with sweat; the long hair remains wet all night. Putting a blanket on a horse in this condition is like putting a cold compress on him rather weakening. He has a blanket stripped off, is harnessed while still wet and goes off down the field shivering in the early morning chilliness. At night the same thing is repeated and at ten years the horse is old and worn out. Now, clipping saves that trouble completely; it adds greatly to the life of the horse by lessening the risks

THE BEST
CREAM SEPARATOR

AND THE DIFFERENCE IN
CREAM SEPARATOR ADVERTISING

All separator advertisements seem very much alike to the average reader, who is at a loss what to make of them and how best to attempt guessing which may be the best machine, where all claim to be the best and all appear to be about everything that could be asked for.

THE EXPLANATION AND THE SOLUTION ARE TO BE FOUND IN THE DIFFERENCE BETWEEN DE LAVAL AND OTHER CREAM SEPARATOR ADVERTISING.

The De Laval Company has always stuck to the old fashioned plan of having its advertising written in its own offices, by the men who make and sell its machines and have been doing so for years, and who know no more about advertising than to describe as simply and best they can the merit and efficiency of the machines they offer to the public.

Practically every other separator concern of any consequence has its advertising composed and in great part "invented" by professional agencies and hired advertising writers, located in the big cities, who could not themselves tell the difference in looks between a cream separator and a corn sheller, and who take up the advertising of everything that comes to them, from needles to automobiles for anybody able to pay for their services, just as does the lawyer for any client who comes along, whether the case is good or bad and the client right or wrong.

It is up to these professional composers of prose, poetry, fiction and romance in an advertising way, and the professional artists who work with them in illustrating their productions and putting them into showy and attractive shape, with their wide knowledge of what "takes" with the public generally, to claim the utmost their prolific brains can evolve for the separators they are retained to advertise.

What these professionalists all do know, or are at any rate first told, of cream separators is that the DE LAVAL machines and the advertising descriptive of the DE LAVAL machines are the ESTABLISHED STANDARDS by which their advertising productions must be measured, and MUST ENLARGE upon in some way, or else they will stand little show of drawing any business for their patrons.

As a result, the biggest advertising claims are frequently made for the poorest and trashiest separators. The biggest advertising done and the biggest claims made are by jobbing and "mail order" concerns who don't even make their own separators at all, but simply buy them where they can buy them cheapest, and who are almost invariably selling a machine which has already proved a business failure once or twice before under a different name and a different coat of paint.

When the DE LAVAL claim was justly made of saving $10.- per cow every year for its users one of the poorest and cheapest separators ever produced put out a claim of saving $15.- in the same way, and since then another has come along and made it $20.- The next may as likely make it $25.-

BUT IT IS THE MACHINE AND NOT THE ADVERTISING THAT SKIMS MILK POORLY OR PERFECTLY AND LASTS TWO YEARS OR TWENTY YEARS AFTER THE BUYER HAS PUT HIS MONEY INTO IT, AND THAT IS THE DIFFERENCE BETWEEN THE DE LAVAL AND OTHER CREAM SEPARATORS, SMALL AS THE DIFFERENCE MAY SEEM IN THE ADVERTISING CLAIMS MADE.

The 1908 DE LAVAL catalogue—to be had for the asking—is an educational text book of separator facts, of interest to all who read and think for themselves.

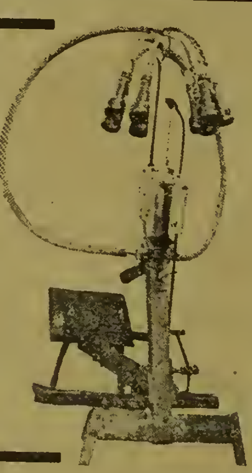
De Laval Dairy Supply Co.

108 S. Los Angeles St.
LOS ANGELES.
42 E. Madison St.
CHICAGO.
165-167 Broadway,
NEW YORK.

General Offices:
101 Drumm Street
SAN FRANCISCO

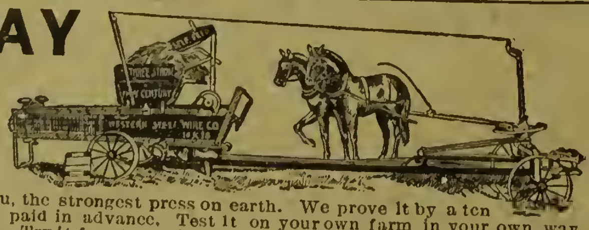
107 First St.
PORTLAND, ORE.
1016 Western Ave
SEATTLE.
Box 1052.
VANCOUVER, B. C.

S U S U S U S U S U S U S U S U S U S
DON'T THROW MONEY TO THE PIGS
The mine owner gets his gold mixed with rock and combined with other metals. He gets out all the gold and then makes in addition what he can from the lead and silver, the "by-products."
The dairyman's gold is cream; the skim-milk his principal "by-product." To get all the profit he must use an
IMPROVED 1908 U.S. CREAM Separator
With this Separator he gets out all the cream, and then uses to best advantage the skim-milk. He can't afford to feed cream to pigs.
Our Catalogue No. 20 tells why. Let us send you one.
VERMONT FARM MACHINE CO., Bellows Falls, Vt.
Distributing warehouses at: Chicago, Ill., La Crosse, Wis., Minneapolis, Minn., Kansas City, Mo., Omaha, Neb., Toledo, O., Salt Lake City, Utah, Denver, Colo., San Francisco, Cal., Spokane, Wash., Portland, Ore., Buffalo, N.Y., Auburn, Me., Montreal and Sherbrooke, Quebec, Winnipeg, Man., Hamilton, Ont., Calgary, Alta.
497
Prompt Delivery Assured California Customers from Stockton warehouse. No delays. Address all letters to Bellows Falls, Vt.

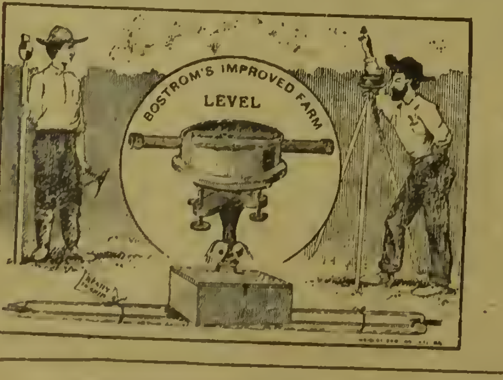


MILKING MACHINES
that easily and cleanly milk 20 to 25 cows per hour are found in the perfected and practical
Mehring's Foot Power Cow Milker
which has been in actual use in some parts of the United States for 6 years and on the Pacific Coast for 2 years The price of Milker complete is $110, net cash, and is doing the same work for one man as some "power" machines costing six or seven times as much.
A. F. Steiner & Co.,
Pacific Coast Representative
2408 Grove Street, Berkeley, California
O. J. Weber Co., 555-557 So. Los Angeles St., Los Angeles, California, Distributing Agents for Southern California

Instead of Glass Bottles
For Milk or other products of the dairy; instead of boxes for honey, etc.
Use Sterilized Paper
Non-breakable; liquid-proof; saves washing or hunting empties; customers pleased to find contents sweet and sanitary. Paper stoppers are good, paper sides and bottoms are better. Cheaper, too.
Quarts, $10 per thousand; Pints, $8; Half-Pints, $7; Quarter-Pints, $6.50
Free Samples Mailed to Any Address
Sanitary Container Co. 668 South Alameda Street Los Angeles, California



BALE HAY WITH CALIFORNIA SPECIAL
Something new, profits for you, the strongest press on earth. We prove it by a ten day's loan to you. No money paid in advance. Test it on your own farm in your own way. Test it to your heart's content, Try it for strength. Try it for durability. Try it for capacity, then notify us of your acceptance or refusal. This CALIFORNIA SPECIAL NEW CENTURY HAY PRESS has been built especially for heavy bailing on the Pacific Coast. You can't hurt it one bit, hence the ten day's free loan. The New Century California Special is all iron and steel, pull power, seven inch step-over, no taking off of wheels, no plunger to break or for the horses to stumble over, positive plunger rebound, baling chamber eighteen inches off the ground. Write for our proposition now. Address,
Houser & Haines Mfg. Co., Stockton, Cal.



BOSTROM'S IMPROVED FARM LEVEL
Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod $12.50.
PALACE HARDWARE COMPANY
581 Market Street, San Francisco
Coast Agents. Send for Circular.

of colds. In California we talk of our horse as old at seven! Back East he would hardly be more than a colt at that age. The old saying that "the life of a fence is three years, of a dog twice a fence, of a horse three times a dog, of a man four times a horse." The horse rarely lives out his full time in California.

The card and brush and sack are used to clean the clipped horse, a curry comb tears and irritates his skin unmercifully. A blanket made of sacks is quickly made for each horse and he is ready for a night's rest after his day's work. Many farmers have the work horse merely clipped on the legs and stomach. This does not do away with the wet hair over the kidneys and spine. It is better however, than letting them have cold, wet legs at night. This half or cart-horse clip, is common on mules, for it is said by old ranchers that to clip a mule all over is almost sure to lose him before the winter is over. How true this is I do not know, but the average farmer will not have a clipped mule though he may be a strong advocate of the clipped horse. Sickness in a mule is harder to combat than in a horse. For most part, whenever a mule is sick if a bran mash and rest does not bring him out it is not thought worth while to do anything more for him, for he will die anyway. I wonder if it is not the pessimistic mind of the mule that has much to do with the mule's disposition to die if he wants to?

Colts.

If it is desirable to raise colts then early care should be taken. The feet are the most important feature of a horse after all, for "no foot no horse" comes down to us from far off antiquity. A file used skillfully on the feet will toughen the edges of the hoof and save breaking off. The irregularities of gait caused by horses not standing squarely on their feet, are many. Now a foot squarely on the ground keeps the horse from going broken from the start. I have bought colts that hopped, skipped and jumped all manner of going, that after having their feet kept regular, developed into smooth-gaited travelers. Colts are best driven without shoes as long as possible, as the weight of the shoe does not help the young hoof. This applies only to colts lightly driven and not overworked. The common fault of driving a colt wrongly shod, causes many to forge or to speedy-cut themselves. The first speeding is best done barefooted. Speedy cutting has hurt many a colt's gait for life for it produces great lameness and the colt remembers, and it may take time before he will reach out in his gait again.—M. E. Sherman.

MOISTURE FOR HORSES, COWS AND PIGS.

On account of the prolonged drouth of the earlier spring, the pastures are drying up very fast and the dairymen are at their wits' ends to get the proper feed for their stock.

Mr. Gus Hanson, who several years ago remarked: "It is a hay saver, all right," is now using molasses for his milch cows, sprinkling it over their hay. Being equal to corn pound for pound for fattening purposes, it serves to keep up the flesh of the dairy cow so that the other food consumed can be utilized in the digestive apparatus of the animal to produce milk. It is obvious the cow must be kept in

Creamery
Cream Separators
Combined Churns
Babcock Testers
Butter Moulds
Engines and Boiler
Pasteuri
Milking M
Creamery and Dai
Machinery of all St
Send List of G
and we will Q
O. J. WEBER
555-57 S. Los
LOS ANGELES,

LILLY
BES
MEANS
Comfort fo

app
spr
an
ho
from
quitoes, etc. It is harmless to stock and will not taint milk. A coat of
LILLY'S BEST LICE KILLER
applied to roost or board beneath the roost will positively kill lice. For something in
LILLY'S BEST
is sure
and is
to chicks.
These
Sold
Manufacture
THE CHAS. H. LI
SEATTLE and PO

CUTTE
Anthra
and
Blackl
VACCI
Are given the prefere
California stockmen b
give better results than
Write for prices, testimo
NEW booklet on Anthrax
The Cutter Labo
Berkeley, Califo

The Whiting Jersey Stock
Is making the very best strain
from the island of Jersey a spec
Whiting Jersey Stock Farm Co. Heb

Thoroughbred Poland
Black Minorca and Barred
High Grade Stock of Be
Young Stock For
M Bassett

Berkshires--Sh
My Berkshires took every blue
and Silver Medal in the female
pigs at low prices. G. A. Murph

Geo. C. Roeding, Fresno, C
Thoroughbred Holstein Bulls
Thoroughbred Berkshire Boa

John Lynch Breeder of Registered
MILK STRAIN
Box 321

One Thoroughbre
tered Holstein Bul
George E. Spencer, Co

on if she is to be expected ı good flow of milk.

for hogs, experience dem- e feeding value of molas- ethod is to begin when the ıed and feed it milk with ded, mixing it to about the ole milk, gradually in- the pig grows until the is considerably greater roportion of milk. Thus never stops growing, keep- ınd healthy until ready for a 200-pound hog.

aier said of such pork, ok at the top market price, ɜsh was firm and that it ry respect as good as from imals.

ng stated: "As I am often ıilk, I heat up sugar-beet dd molasses, giving alfalfa ıuxiliary feed to make up a ration." He says: "My n is to feed five pigs skim- and molasses, beginning allon of molasses to a bar- , gradually increasing the ınd keep them growing on o the time of market. At put in just enough shorts thicken the milk so that the not be too watery for the stomach."

the time I have fed molas- turned off fat hogs regular- best market price, and the asses has saved me a great oney compared with what e would have been had I fed ead. I have turned off in fteen head at 6½c; fifteen and six head at 6¼."

s it may be fed by adding to ng water, or sprinkled on crib, or on the layers as it a barrel of molasses to a tter plan having many ad- or any rough fodder can be zed. Foxtail and barley thus rendered harmless.—

RCULIN BARRENNESS.

g to a query as to whether ws with tuberculin tends to s in the tested cow, Hoard's says:

ard's Dairyman herd of cows regularly tested every year ıst eight years. We have no it has caused any difficulty in getting the cows to is very easy for some men at false conclusions. As a take no particular pains to whether their conclusions founded on fact or not. It to them and that is enough. herd of cows there will occa- ccur one that is a shy breed- had one cow that went 2½ thout getting in calf. A re- he yeast treatment finally ıer around.

S AND CONDITION OF FARM ANIMALS.

s from correspondents and f the Bureau of Statistics of . Department of Agriculture that the general condition in healthfulness of farm ani- April 1 was higher than the of the past ten years, and, exception of swine, slightly han on April 1 last year. rom disease of swine during year were slightly heavier ring the preceding year; but than the average of the past s. Estimates for other classes animals indicate smaller the past year than either the g year or the average for the years.

Soled Boots and Shoes. Boots, oes, $2.00. O. J. Weber Co., 555 ıs Angeles St., Los Angeles, Cal.

Wasn't Your Neighbor Foolish?

Didn't he make a chump of himself? Wasn't it about the most senseless thing he ever did when he bought that "cheap" cream separator from a "mail order" concern that never manufactured a separator of any kind, and switches from year to year to the separator that can be bought the cheapest? Where is your neighbor going to get repairs? Why, he doesn't even know who built his separator, and the most important thing for a man to know when he buys a "cheap" separator is where to buy repairs every week.

There stands your neighbor's separator, down and out; broken; only used a few weeks; money wasted. Perhaps he could repair it if he knew where to get repairs, but he doesn't know. The fact is, there is no place to get them; his separator was one of a job lot sold "cheap" by a manufacturer who knew it was no good, and who unloaded his stock on a catalog house for what he could get. Now he's out of business.

The Tubular Cream Separator

"Different from the Others"

Easy to oil
Easy to turn
Easy to clean
Low supply can
No dirty oil cups
No bothersome discs

Simple, durable, conbenient, handsome and profitable.

No Wonder They Are Pleased

Didn't Like Mail Order Separator

SOUTH SCHROON, N. Y.

The Tubular gives us perfect satisfaction. The longer we use it the better we like it. We bought one of the improved — — — — of — — — — —, of Chicago, last spring, but we didn't like it a little bit. It was hard to run, hard to wash and hard to keep clean, while the Tubular is easy to run, easy to wash and easy to clean.
L. W. WHITNEY.

Discarded Mail Order Separator

ROBESONIA, PENNA.

After using a mail order cream separator for six months I decided to discard that machine and purchase a No. 4 Tubular Separator. The mail order separator would separate only 275 pounds of milk per hour, and did not give a thorough separation. I can skim two buckets of milk in 4 minutes. The mail order separator required ten minutes. I am more than pleased with the purchase I made from your people.
WM. F. BUCKS

Why didn't your neighbor do as you are going to do? Why didn't he buy a **Tubular Cream Separator,** built and guaranteed by the largest cream separator factory in the world and the oldest in America. For twenty-eight years we have been building cream separators at West Chester, Pa., and TUBULAR separators are used in every dairy district of the world.

Tubular Has No Rival

ZIMMERMAN, MINN.

Tubular shows no wear after three years and has never given me any trouble and from present appearances is good for a lifetime. One of my neighbors bought a — — — — — — about a month before I bought mine, and it went to the scrap pile months ago. For skimming the Tubular has no rival in my opinion. JOHN M. COOK.

We know how to build separators that will wear, and we are always where you can reach us when you want us. That's something you can tell your neighbor about TUBULARS. Maybe he would like to get right. Maybe he would like a little help. Probably he would like to have a TUBULAR if he could get a little something for his "cheap" separator. Maybe we can help him. Won't you suggest that he write for our new catalog No. 260? It tells all about it.

THE SHARPLES SEPARATOR COMPANY,
West Chester, Penna.
Chicago, Ill. **San Francisco, Cal.** **Toronto, Can.**

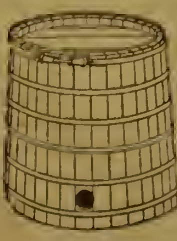
Obtainable at All Druggists and General Dealers

Use
"Western" Condition Powders
for Horses and Cattle

The Best Tonic on Earth

Put up by 1-lb. Package, 25 cents

Western Wholesale Drug Co.
Los Angeles, Cal.



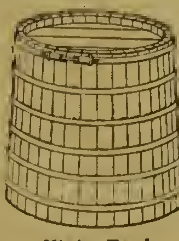
Wine Tank

Tanks Tanks
WINDELER'S PLANING MILL AND COOPERAGE

GEO. WINDELER, Prop

Water Tanks, Wine Tanks made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

Geo. Windeler
144-154 Berry St. San Francisco, Cal.



Water Tank

Live Oaks Farm
Frank A. Meacham, Proprietor.
Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to
Petaluma, Sonoma Co., Cal.

VENADERA HERD OF REGISTERED JERSEYS
I have for sale a number of richly bred young bulls, some of them from cows that have high official yearly records.
GUY H. MILLER,
Route 3, Modesto, Cal.

For Sale
Smith's Golden St. Lambert No. 79239 A.J.C.C.

A beautiful young bull combining the best Golden Lad and St. Lambert blood. Winner of 3 first prizes in 1907. Fit to head any herd.
Geo. A. Smith, Corcoran, Cal.

POLAND CHINAS FOR SALE
18 head of thoroughbred Poland Chinas of both sexes, some of them weigh 150 pounds. **W. R. McCaslin, R.F.D., Oak Park, Sac. Co., Cal. Roosevelt Ave**

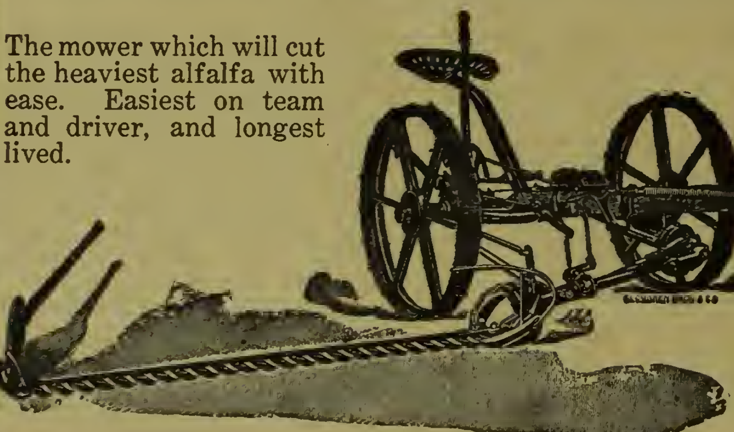
Mowers Hay Rakes

We have the most complete and elaborately illustrated catalogue of Mowers and Hay Rakes yet published. It is sent free for the asking. Write today and get **OUR PRICES** before buying. You will make no mistake

Arnott & Company, Inc.
112-114-116-118 South Los Angeles St., Los Angeles

The New Standard Mower

The mower which will cut the heaviest alfalfa with ease. Easiest on team and driver, and longest lived.



Write Department "A" for full information about the New Standard Mower, and about our line of Hay Tools. Every implement in the line is modern in construction and made to work under western conditions.

Gem Hay Presses
Superior Alfalfa Stackers
Superior Alfalfa Buck Rakes
Meadow King Hay Carriers,
for wood track, steel track and cable
Diamond Sickle Grinders

Newell Mathews Co., Vehicles and Implements
200 No. Los Angeles St. Los Angeles, Cal.

Queries and Repl

Questions to be answered in this department should be received at thi
one week before reply is expected. Write plainly on one side of the pap
sign full name and address. Unsigned communications receive no atten
Ed.

Mildewed Peas.

Will sulphur prevent mildew on peas? When should I apply and how? I want to raise these in September and will irrigate. But last fall they mildewed badly, though I did not sulphur till late, when they were badly afflicted.—Chas. Maha, Arroyo Grande.

Yes. But it should be used as a prevention. To wait until the vines are covered with mildew is to wait too long. It is the fumes of the sulphur that destroy the fungus, and these fumes are set free by the heat of the sun, so it is best to apply it early when the peas are a couple of inches high. It is not necessary that the sulphur should all be on the vines as what falls on the ground will be just as effective, provided, of course, it is in close proximity to the vines. It is likely to be more effective as it is hotter on the surface of the ground and the greater the heat the more fumes set free. Later on, say when the vines are ready to blossom make another application. Run your sulphur through an ordinary flour sieve to pulverize all the lumps and put 8 or 10 pounds in a barley sack that is not too closely woven and shake it over the vines as you walk along the row.—Q. A. L.

Grape Jelly.

Will you publish the grape jell recipe again that was in your paper last summer. We tried it and it was splendid; was to make grape jell so it would not crystalize. Make out of partly green grapes; boil fifteen minutes, I believe. Recipe was lost.—Floyd Nolin. Parker, Kansas.

The recipe you request was published in issue of Aug 22, and as it is of value, we reprint:

A grape jelly which will not crystalize is made as follows: Cover partly ripe grapes with water, boil twenty minutes, strain through a bag without squeezing. Let it stand over night, strain again and boil twenty minutes. Add a pint of sugar for every pint of juice, and boil five minutes, then strain into jelly glasses.

Who Owns the Apples?

When I came here six years ago my trees, mostly Newtons, were quite small, and my neighbor's trees (Bellflowers) on the north of me were possibly two years older; not very large,
but Bellflowers grow very ra
tons slow; so his trees s
stripped mine in growth.
are planted twenty-one f et a
way, which is entirely too
gether for spreading tr s
flowers. So his trees cov r t
and crowd one another. Th
row next to me reaches out,
and branch, and robs my ro
tons, so they are dwind
and have little fruit. I a
man to prune them back t
He refuses. I told him I h
to pick all apples on my s
or could cut off all limbs a
said trees extending ov r
(moral and legal right.)
rect? There is no line fe
us. Can I force him to bu
—H. G. T.

You may cut the limbs
of your property or you
and you are entitled to al
grows over your land. Y
a line fence as deep and
you wish. You cannot
to bear part of the expen
uses his side. That is
in stock or otherwise use
in a way which would nec
having a fence, then he
pelled to pay one-half the

Passion Fruit.

We have a large passion
has had flowers and now s
full of fruit. When yello
low are they fit to eat?—S

The passion fruit is s
quantities to London and
big prices. In this country
but little of, though some
great delicacy.

Fumigation.

Will you kindly give the
best method of preparing
chemicals for fumigati
scale; also, is there dange
trees by leaving tents on t
Subscriber.

Had you been at the Ri
vention you would have fo
opinions as to fumigation
The formula as given by P
lum for 100 cubic feet is 1
1 oz. sulphuric acid and 3
Others use stronger or
cording to circumstances. T
particulars would require
little experience with
hands would be of val

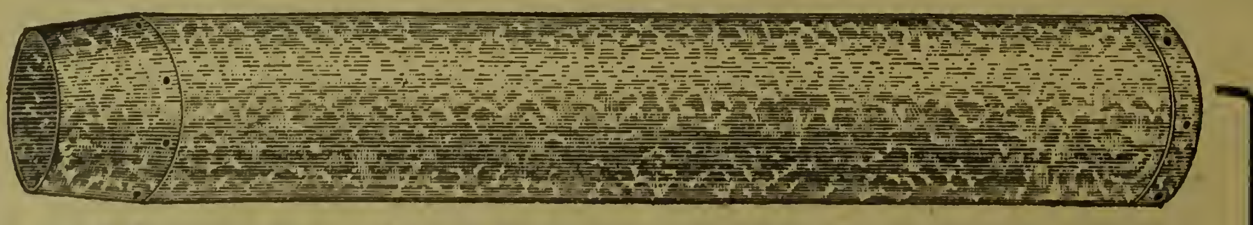
Aphis.

I am sending by mail in
oranges with insects. What
—C. D. D,. Highlands.

It is the plant louse, or
be destroyed with spray of
emulsion or tobacco mixture

ONE ON THE FISH

"Doin' any good?" asked
ous individual on the bridge
"Any good?" answered
man in the creek below.
caught forty bass out o' he
day."
"Say, do you know who
asked the man on the bridge
The fisherman replied tha
not.
"Well, I am the county
game warden."
The angler, after a
thought exclaimed. "Say,
know who I am?"
"No," the officer replied.
"Well, I'm the biggest liar
ern Indiana," said the craft
with a grin.—Recreation.



AMERICAN SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties. We make Riveted Water Pipe** in lengths of **ten feet** from **single sheets.** Let us **prove** to you that we make **Pipe** and **Tanks right.** WRITE FOR CATALOGUE.

AMERICAN STEEL PIPE & TANK COMPANY
FORMERLY TALLERDAY MANUFACTURING COMPANY
636-7 Pacific Electric Building **Los Angeles, Cal.**

DON'T BUY GASOLINE ENGINES UNTIL YOU INVESTIGATE "THE MASTER WORKMAN," a two-cylinder gasoline, kerosene or alcohol engine, superior to any one-cylinder engine; revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durability. Costs Less to Buy. Less to Run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or traction engine. SEND FOR CATALOGUE. **THE TEMPLE PUMP CO., Mfrs., Meagher and 15th Sts., Chicago.** THIS IS OUR FIFTY-FIFTH YEAR.

eterinary

hittlcsey, veterinarian, of
nth stcet, Los Angeles,
luestions in this depart-
ing of sickness or injury
be explicit in giving symp-
rticulars. Always enclose
address, but if assumed
als are preferred they will

diate mail reply is wished
or such service, but for re-
r only, no charge is made
will be of general interest.

at.

eifer, miled three months.
ne I milked I noticed a
on one teat. It is now as
irge filbert and creases in
ebud. I think it is a seed
I remove it while she is
—G. W. P., Hollister,.

can be removed by the use
ving salve: Lanoline, one
nious acid, one dram, thor-
a. Rub well into the seeds
nis is very poisonous, care
ken not to get it into the
e wart does not fall out in
repeat the treatment.

aw.

cow who has a large lump
side of her jaw. The lump
hed to the jaw and can be
ut with the skin. It was
d tnree weeks ago and is
ged. Eats well and is in
ition. How shall I treat,
milk wnolesome?—W. H.

large incision into the tu-
ing a free escape of the
k the cavity full with a
uze saturated in the follow-
n: Water, one pint; for-
dram. Remove the gauze
of three days. The whole
fall out in a few weeks.
in more of a hurry employ
ry to remove it at once
p the wound. Give inter-
following solution: Potas-
le, one pound; water suf-
make one quart. Give one-
(measure carefully) night
ng, in soft feed or drench in
ntity of water. The milk
ly wholesome.

er.

a fine cow that gives an
of milk, but is very hard to
she be made to milk easy
ng silver tubes into her
.R., Moorpark.

an be done, and is very sim-
reat care and cleanliness
taken so as not to get the
or the udder infected.

n.

of my cows keep rubbing,
e neck and shoulders the
ming off and a rough, light
or scaly flesh is forming.
ise me what to do?—A. G.
k.

the most efficient remedies
oil and soft soap emulsion,
If you have not the soft
e it from laundry soap.
roughly once daily.

mare 6 years old that I
ible to get into any kind
n or flesh. For over a year
l her on good mixed grain
from two to three gallons of
ey and bran per day, in
ave fed almost constantly
s She seems half starved
e in spite of all she can eat.
y find worms in her drop-
e so fine as to be almost in-
d others as long as six
d during the summer she
air off the rump and root of
fed many boxes of "worm
ut it seems to do no good.
rong, and how can I help
Sanger.

ery likely her trouble is due
but would advise having her
ed to by a competent dentist. Feed only green feed for two days, then give the following: Turpentine, 3 ounces; aloin, ½ ounce; raw linseed oil, 1 pint. If she is not physicking hard at the end of 24 hours repeat, and again in 24 hours unless her passages are about all water. She may physic hard for several days. This treatment should be repeated in a month, any way, as young worms

Barrenness in Cows.

Can you give me a remedy for cows that will not get with calf? I have one which has been giving milk 18 months.—W. E. F., Laton.

The use of an impregnator is the simplest and surest method. An instrument can be purchased of any instrument house in Los Angeles, or the veterinary editor of The Cultivator can be consulted personally at 714 E. Seventh street, Los Angeles.

Bloody Milk.

My Jersey heifer had her first calf two months ago. She gives four gallons of milk. About two weeks ago I noticed bloody milk in one teat and sometimes little pieces of blood. Sometimes the same teat is caked a little. Please give a remedy.—R. H., Anaheim.

If the "cake" is in the teat as you say, and not in the udder, have a pint of saturated solution of boric acid made up and after each milking inject the teat full of the solution. Have the syringe thoroughly clean and use only enough to fill the teat, leaving it there.

BIG PEANUTS.

A neat feature to advertise California peanuts, is a peanut crate with a few mammoth peanuts. They are put up by J. G. Wirsching, Anaheim, and sold by many curio dealers. The above cut gives something of an idea of the size.

The address of the author of article on first page of Cultivator of April 23, is Fullerton instead of Anaheim.

The Century magazine is up to its usual standard, it is even above it and is giving some remrkable reading matter.

Literature worthy to endure is Helen Keller's "A Chant of Darkness"—certainly this remarkable blind girl's most notable achievement. The lines were originally a passage in the first draft of Miss Keller's "Sense and Sensibility," published in The Century for February and March; but as Miss Keller developed the thought her style became dithyrambic, and made a poetical chant which stood out from the prose. This passage gradually shaped itself into a complete stanzaic structure—enriched with quotations from Job and from some of the modern poets— remarkable and exquisite chant of faith.

Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

EGGS FOR HATCHING.

ORPINGTONS, BUFF AND BLACK. THE winners of the lion's share of honors at the Los Angeles County and Breeders' shows this year. The birds that win in the keenest competition and lay eggs all the year. Birds that pay as they go. Handsome catalogue free. Guaranteed fertile eggs in any quantity. Proven breeding stock very reasonable. Write today. Orpington Reservation. ROSS & TATE, Altadena, Cal.

EGGS FROM MY PRIZE WINNING BARred Rocks; won all firsts, all seconds but one, and all specials on Barred Rocks at L. A. C. P. A. Show, 1907. Eggs from best pens, $3 per 15; $12.50 per 100. Stock for sale. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

BURTON'S BRED-TO-L... STRAIN BUFF Leghorns, White Leghorns and Black Minorcas, all healthy stock. Eggs per sitting of 15, $1.50 and $2.50, also little chicks 15c and 25c each. C. L. BURTON, 1348 East Adams St., Los Angeles, Cal.

BUFF ORPINGTON AND WHITE Rocks, $2.00 per sitting, $6.00 per 100. Indian Runner ducks, $1.00 per 12, $5.00 per 100. First class stock. WYATT & WOLLITZ, Fern Park Poultry Ranch, Corona, Cal.

$5.00 PER SETTING FROM WHITE CRESTed Polish Bantams, from imported stock. Most beautiful Bantams in the world. No stock for sale this year. R. D. PECK, 367 S. Boylston, Los Angeles, Cal.

FOR SALE—LINE BRED WHITE ROCK cockerels from Mrs. Basley's original strain. Write for prices. Also eggs for sitting $2.50 per 15. MRS. KATE B. JOHNS, Compton, Cal.

EGGS FROM THE SECOND PRIZE PEN of White Rocks at Breeders' Show, $1.50 per 15; $2.50 per 30. J. W. WHITNEY, R. D. No 2, Long Beach, Cal.

S. C. RHODE ISLAND EGGS, WINSLOWS strain. $1.00, $2.00, $3.00 for 15. MRS. JOHN E. ADAMS, Box 785, Monrovia, Cal.

LIGHT BRAHMA EGGS FOR HATCHING. $1.00 per 15 or $6.00 per 100. J. S. BENNER, San Bernardino, Cal.

THOROUGHBRED BARRED ROCK eggs; pens headed by cocks from Bemis' prize winners, $2.00 per 15. A. E. WARD, Kenwood, Cal.

ALTADENA ORPINGTON FARM—MATSON Hayden, Box 1001, Pasadena. Golden Buffs exclusively. Settings $10.00, $5.00 and $3.00. Five winnings at show Los Angeles 1908. Satisfaction guaranteed.

WYKOFF WHITE LEGHORNS—BRING results. $1.50 per setting. $7.50 per 100. W. F. HISLOP, Riverside, Cal.

MAMMOTH BRONZE TURKEY EGGS FOR sale. Ten dollars a hundred. MRS. W. B. RICHARDS, Holtville, Cal.

S. C. WHITE LEGHORN EGGS, $5.00 PER hundred. Large, healthy stock, fine winter layers. D. H. CLAYTON, Colusa, Cal.

PHEASANTS.

SEND 25c FOR BOOKLET "PHEASANT Farming." Tells how to raise pheasants. Many beautiful halftones. SIMPSON'S PHEASANT FARM, Box C247, Corvallis, Oregon.

CALIFORNIA FARMS BOUGHT AND SOLD.

IF YOUR FARM IS FOR SALE LIST WITH me for quick results. If you are looking for a farm, write me, giving particulars and location desired. H. O. JACKSON, 1112 Broadway, Oakland, Cal.

DOGS.

SABLE AND WHITE COLLIE PUPPIES—Sires, Brandane Wishaw Squire and Glen Fana Bounder, litter brother to Aufield Model. Dams, Ormskirk Glorlana and Presidio Nellie. $10 to $25; 2 to 8 months. GLENALPINE KENNELS, Grandville, Cal.

TREES.

FOR SALE — 20,000 BLUE GUMS AND other ornamental stock, sweet potato and tomato plants now ready in quantities. COVINA FLORAL NURSERIES, Covina, Cal.

FOR SALE—BLUE, RED AND SUGAR gum, and seed. J. R. HUMPHREY, 518 Oregon Ave., Santa Monica, Cal.

FOR SALE—LATE VALENCIA ORANGE trees. ADOLPH RIMPAU, Anaheim, Cal.

HOGS.

FOR SALE—ONE YEARLING REGISTERED Poland China boar; one yearling grade boar, good breeder; cheap. Some good sows, both registered and grades; also young pigs. Call, or write J. L. TUMMOND Buena Park, Cal.

INCUBATORS.

FOR SALE OR EXCHANGE—200-EGG Must-Hatch Incubator, 200-chick brooder, good as new, $25.00, or will take registered Pointer bitch. F. F. WILSON, Auburn, Cal.

MELON SEED.

PLANT THE SANTA CLAUS MELON—Write to us for our circular of instructions. This is the best late melon ever introduced. It is at its best from Dec. 1st to Feb. 1st. 1 oz., 25c; 1 lb. $3.00. JOHNSON & MUSSER SEED CO., 113 N. Main St., Los Angeles, Cal.

FARM FOR RENT.

FOR LEASE—ONE OF THE BEST equipped poultry ranches in the State for two years or more. Leasee to buy stock, about 1700 head, at from $9 down, also about 1100 this February and March hatch pullets. Ranch in first class condition. Practically new 6-room house fully plumbed. Within three-fourths of a mile of Court House; free delivery of groceries and feed. Reason for leasing poor health. A rare opportunity. Investigate. Inquire this office or on ranch. F. L. JONES, Hollister, Cal.

MACHINERY.

MACHINERY FOR SALE—ELECTRIC AND gasoline engines, pumping plants, pipe. Good bargains in new and second-hand machinery. LOOMIS & BROWN, Machinery Brokers, 323 Citizens Nat'l Bank Bldg., Los Angeles, California

FOR SALE—35-H. P. GASOLINE ENGINE in excellent condition. 2500-gallon wood tank, wood split pulleys. NATIONAL WOOD PIPE CO., 404 Equitable Bank Building. Los Angeles, Cal.

FOR SALE—GASOLINE ENGINES FROM 2 to 80-H. P. guaranteed the same as new. Also horizontal and vertical centrifugal pumps. Electric machinery as well as steam engines and pumps. We do installing and repairing. See us before buying as we can save you money. BAILIE & BRANDT CO., 943 N. Main St., Los Angeles, Cal.

FOR SALE—A REAL BARGAIN; 13-H. P. Foos engine in first class running order. N. W. cor MAIN and BRUNO STS., Los Angeles, Cal.

POULTRY

BARRED PLYMOUTH ROCKS, OCEAN Blue strain; for show points and as layers, unsurpassed; if you don't believer it, try a setting or two of eggs or, better still, an incubator lot, and prove it, as many others have done; eggs, $2 to $5 per 15; incubator lots, $8 100. MRS. AND MR. D. T. WIELAND, Moneta, Cal. Take Moneta ave. car for Redondo, get off at Illinois st., Moneta, right on ranch.

BLACK MINORCAS OF QUALITY—A Choice lot of large size cockerels bred to standard requirements. A rare chance to get an excellent breeder $2 to $5. One pen mated up for my own use of finest high scoring female specimens and layers, standard weight and over, to a grand cock bird which headed Geo. H. Northup's first pen last season. A few settings to spare at $3.00. J. P. McDONOUGH, Geyserville, Cal.

WHITE WYANDOTTES 200-EGG STRAIN, 11 females, record 24 to 26 eggs each per month, with high grade cock, a great bargain, considering quality. Choice cockerels and get them at your own price. Selling out. B. KOBELT, Petaluma, Cal.

FOR SALE—STOCK AND EGGS OF THE following standard bred poultry: Black Orpingtons, the great winter layers, Brown and White Leghorns. J. J. VERKOUTEREN, route 3, Hanford, Cal.

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SILVER LACED WYANDOTTES—BEST stock on the coast. 9 ribbons on 10 entries at late Chutes Park show. Eggs, $1.50 per 15. FAIRVIEW POULTRY YARDS, A. E. NELSON, El Monte, Cal.

INDIAN RUNNER DUCKS AND BLACK Langshan fowls. Eggs and stock for sale. Large, fine stock, with good range and strong fertility. CLYDE J. MOSS, Corona, Cal.

SHIPPING CRATES FOR POULTRY. Write for particulars. Established 1900. A. & H. SEIBEL'S SONS, 320 E. 6th St., Petaluma, Cal.

MISCELLANEOUS.

THE LATEST AND MOST UNIQUE SOUVENIR Peanut Crates made of orange wood, with redwood bottom neatly tied with silk ribbon and containing the largest and smallest California peanuts. Send for sample box, 25 cents by mail; and for sale by all curio dealers. JOHN G. WIRSCHING, Anaheim, Cal.

FOR IMPERIAL VALLEY NEWS SUBscribe to the Brawley News, BRAWLEY, Cal., $1 a year, sample copies free.

ELLIOTTS OINTMENT CURES LUMP jaw in cattle—never fails—$1.00 per box. D. R. ELLIOTT, Riverside, Cal.

FARM LANDS FOR SALE.

FOR SALE—SALT RIVER VALLEY ranches in tracts of 10 acres to 160 acres and up suitable for raising oranges, lemons, pomelos, alfalfa, sugar beets, melons, deciduous fruits or anything grown in a semi-tropic country at prices ranging from $30.00 to $200.00 per acre. Investigate this. F. J. BARR, 4 West Adams, Phoenix, Arizona.

FOR SALE—1 TO 10-ACRE TRACTS ON CAR line, between Riverside and new cement works; good for chicken ranches, alfalfa or gardening; will sell on easy terms; plenty of water on each tract. C. C. POND & N. R. BELL, Riverside, Cal.

FOR SALE—TWENTY AND FORTY acres, level, good land. Fine for chickens, berries, etc. $30 per acre. Very easy terms. No irrigation required. WM. MANTZ, Santa Maria, Cal.

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MEN TO LEARN A TRADE IN FEW months by actual work in shops and on buildings—no toys or books. Plumbing, electricity, bricklaying, etc. Organization of contractors employ graduates. Free picture catalogue. UNION SCHOOL OF TRADES 120 to 126 E. 9, Los Angeles, Cal.

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WANTED—A WELL RECOMMENDED MAN capable of taking charge of a dairy farm or ranch; would like to find the right place for a good man, unmarried and will go to any point in California or Arizona. Address A. B. C., care Cultivator office, Los Angeles.

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Household Departm

THE CRY OF THE PINES.

Listen! The great trees call to each other
"Is it coming your time to die, my brother?"
And through the forest, wailing and moaning,
The hearts of the pines in their branches groaning,
We die, we die!

"We who have watched the centuries dying,
The span of years as an arrows flying—
Ages seeming a day and a morrow,
Lo, we have reached the time of our sorrow—
We die, we die!

"We, who have stood with our ranks unbroken,
Breasting the storms, a sign and a token
That the gale must cease, and the wild winds staying,
Man, we shielded, is come, and is slaying—
We die, we die!

"Flaying the bark, and our bodies baring,
Like dim white ghosts in the moonlight staring,
Naked we stand, with the life sap welling—
Tears of resin, to gather for selling—
We die, we die!"

All over the land are the forests dying,
One piece of silver a tree life buying—
Listen! The great trees moan to each other,
"The ax has scarred us, too, my brother—
We die, we die!"

TWO LITTLE SHOES.

HE HAD been full of an unreasoning anger all the day, and now "the sun had gone down upon his wrath." After the scene of the morning he had expected to find the house, when he returned to it at night, forsaken and alone, and he was not mistaken. No welcomeing light streamed out of the darkness, no little figure tripped arily back and forth from the small kitchen to the tinier dining room; no bright, loving sunny face met him at the door with a fond kiss and a glad word of welcome. Everything was still and chill and silent.

He had taken no supper down town and yet he was not hungry. He had been to miserable to eat, having not yet arrived at that mile-stone in married life when a quarrel and an appetite are both possible. As the door swung open to his latch key he hesitated before entering, dreading the gloom and darkness awaiting him. As he stood there doubting and uncertain, round the house came the pit-a-pat of four soft, eager feet, and the next moment Madge's water spaniel rubbed against him with a sharp, ecstatic bark of welcome. He stopped to stroke the chesnut coat, then gaining courage, a second later, entered the house, the dog closely following. He groped his way to the mantel, struck a match and lighted the tall lamp. As the soft mellow radiance fell upon each familiar object of the pretty room Derwent groaned. How empty—how cheerless it was, devoid of the witching, graceful lovable presence of her who was its mistress.

"I shall not be here when you return to-night," he heard her sobbing voice say again. "You are unkind and unjust, and I have not deserved it. When you can treat me as a wife should be treated, how her eyes had flashed through her tears) I may come back, but not till then."

And she had been as good as her word. He went out of the little parlor and into the room Madge called her own. Her morning gown was flung across the foot of the bed, and there, close by her chair, stood a pair of little shoes. There was nothing remarkable about them in the least, yet, as Derwent gazed upon them, his eyes filled. They were brown in color and edged with fur and small. They must needs be to fit the fairy feet that ran about in them al
How willing the little feet
be sure, on their ministeri
forth.

He had never thought
about it before, and yet, oft
must be tired, poor lit
there was no help hired in
house, and there was al
thing to be done, and yet,
bered it now with a p
never heard her complai

"I love to do it, Jac
said to him one day w
chided her for some ta
completed. "I love to do
(with a little tender ki
you."

He stood looking down at
shoes in silence, their m
touching more than words
them both suddenly to hi
ing them fervently. A te
—rolled down his cheeks
the black edging of fur, b
shoes told no tales. If th
could have whispered of
that had fallen upon the
morning, when their lit
had taken them off and
side by side.

Somehow as Derwent s
with the little shoes in hi
anger in his heart add die
across his face there flash
resolution. "Dear little
murmured penitently as
away, "I was wrong, an
sleep to-night until I find h
her so."

He put the accusing sho
down, left the room and
vanishing in the darkness
certain street he turned; up
still another, then as the li
large white house gleamed
vision, he stood still. It wa
only a short distance from
the curtains were not yet d
he could plainly see by the
within two figures seated b
One was as old lady with s
and a serene and kindly f
was knitting, for he saw h
flash in and out in the
hearth flame. The other sat
side her. This one was yo
and fair of face, with a w
curling hair and sorrowf
eyes. Her hands were idl
could see them folded in h
waited to see no more, but
riedly up the short walk, o
front door. The old lady
feet with a smile of wel
entered, but the other figu
stir.

"Good vening, Aunt Barb
went began. "I've come fo
ah, here she is."

He went over to his wif
and, stooping, kissed her
once—twice, and lo, in that
Madge's sorrow and resentme
ished like a dream; all clou
swept away, and again from
troubled sky of bliss the b
of her short married lif
warmly. She rose at once,
her little hand into Derw nt's,
pulse throbbing joyously fro
expected kiss.

"Won't you stay for supp r
ren?" asked Aunt Barbara, an
ly. "It's too late to go home n

"I believe not, thank you,"
wered Derwent, carelessly.

"The wind is rising and it wi
colder soon. Ready, dar
Fasten your cloak well at the th
here, let me do it. There, that's

larness With "Life" in it

A *pliable* strap is a strong strap. You will hold the horse all right if you have softened and toughened the whole harness with

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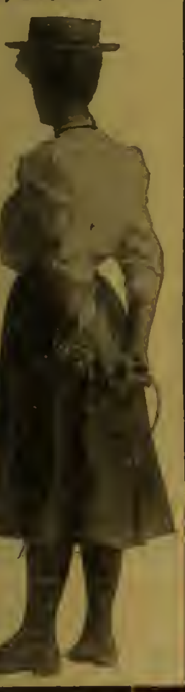

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ter. Good night, Aunt Barbara, come over and spend the day with us soon. Madge is a prime housekeeper and does you credit."

Aunt Barbara laughed, well pleased, and, forbidding her to come to the door to see them off, they passed out into the night. A silence fell between them, then suddenly Derwent felt in some mysterious fashion that Madge was crying. The street was a dark and quiet one and Derwent took her in his arms.

"Don't cry, dearest," he whispered, remorsefully. "I alone have been to blame. Forgive me this time, sweetheart; I'll do better in the future, only try me."

For answer Madge pressed her head against his breast. "I've been so miserable, Jack," she went on quivering, "you can't guess how miserable. I was so frightened after I had really gone, but Aunt Barbara, dear unsuspecting old soul, did not know. She thought I had come to spend the day. Ah, you can't guess (with a little shudder) what a wretched, wretched time this has been.'

"Can't I?" answered Derwent, with a grim smile. "I think I too have suffered something to-day, little wife."

They entered the little house together, and again Derwent lighted the tall lamp Then he turned and placed his trembling little wife in her low chair. He took off her hat and cloak as gently as a woman. The lamp light fell on her bronze golden hair, her soft eyes, her red lips. How beautiful she was, he thought involuntarily. He stooped and unfastened the trim shoes, a trifle damp from the walk home, then he went into the little room beyond, returning with two little brown ones edged with fur. He knelt and slipped them on her pretty slender feet.

"How good you are," murmured Madge brokenly, "what brought you to Aunt Barbara's to-night, Jack? I sat there waiting, dreading, I know not what, fearful lest Aunt Barbara should guess the truth and question me. Ah, you can't guess the bliss, the relief your coming gave me. What made you do it, Jack?"

Derwent bent suddenly and kissed the littel foot in its brown shoes edged with fur.

"What made me?" he answered, a trifle huskily—"why two little shoes—my dearest."—Plain Dealer.

RECIPES.

Cream Cakes.

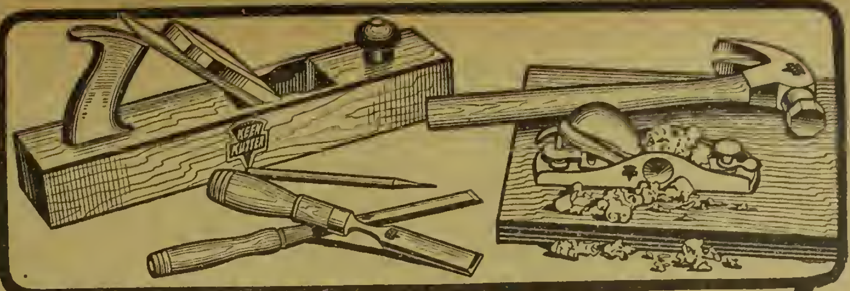
One cup soft sugar; one cup sour cream; one egg; one teaspoon soda; one cup raisins; salt; nutmeg; one and one-half cups flour; bake in patty pans.

Sandwiches.

One of the most delicious accompaniments to a green salad are cheese sandwiches toasted or sauteed. Grate the cheese, season lightly with salt, pepper and mustard, add enough creamed butter to transform into a paste. Spread thin between folds of white bread.

Tomato Rarebit.

To make a tomato rarebit take half a can of tomatoes, one-fourth of an onion, three cloves, one-third of a teaspoon of mustard, one-half teaspoon of salt, one-fourth of a teaspoon of soda, and cook for ten minutes. Add one-half teaspoon of cornstarch and strain. Add six ounces of grated cheese, and when melted serve on toast or hot crackers.



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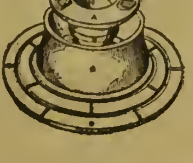
First National Bank
of Los Angeles, California

UNITED STATES DEPOSITORY FOR GOVERNMENT FUNDS

TOTAL RESOURCES, $16,000,000

ADDITIONAL ASSETS—One Million Five Hundred Thousand Dollars invested in the stock of the Los Angeles Trust Company and the Metropolitan Bank and Trust Co., and held by the officers of the First National Bank, as Trustees, in the interest of the shareholders of the Bank.

We are prepared to extend to the small depositor the same personal and careful attention that we do our largest accounts.



The Star Oil-Gas Burner

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NO WORK
WORRY
DIRT
DANGER

FOR FURTHER INFORMATION CALL OR WRITE
International Invention Co. 508 Mason Bldg., Fourth and Broadwa
Los Angeles, California

The Produce Markets

Los Angeles Markets

LOS ANGELES, May 6, 1908.

Receipts of butter are heavy and the market is easy. Storage is receiving much of the present stock and it is thought the bottom quotations are reached. Quotations are exactly as last week. The following are exchange quotations, actual sales often command 2½ cents advance.

Creamery ex per roll	47½
Firsts	45
Dairy	22
Cooking	17½
"Butterine"	15@20

Cheese.

Southern California	14½
Northern fresh	14@15
Eastern singles	16½@17
Imported Swiss	29@30
Tulare flats	15@15½
Swiss	19½
Oregon	18

Eggs and Poultry.

An advance of 1 cent is noted on eggs this week and at present the market is very strong.

Eggs local candled	20
Eggs case count	18
Northern candled	18@19
Case count	16½@17
Eastern fresh	18@19
Hens per lb	11
Young roosters per lb	17
Fryers	22
Broilers per lb	23
Roasters	18
Old roosters	8
Turkeys	16
Geese	13
Ducks	12
Squabs	1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds	6½
Prime steers	4½
Heifers	4
Calves per lb	5
Sheep ewes per head	4.75
Lambs per head	3.50
Wethers	5.50

Potatoes.

Highlands	90
Early Rose	1.70@2.25
Salinas	1.25@1.50
Sweet potatoes per sack	1.50@3.50
Sweets Northern	3.00@3.25
Oregons	1.35
White Rose	1.35
Watsonvilles	1.35
New potatoes by lb	2½@3½

Onions.

The onion market was weakened on Saturday by the receipt of 500 sacks in one bunch, but quotations are very satisfactory.

Bermudas per 100	2.90
Oregons	4.25@4.50
Minnesota	4.05@4.30
Garlic	18
Coachellas	3.30
Silverskins new	3.50@3.75

Vegetables.

Artichoke per box	50
do Jerusalem box	75
Asparagus per lb	9@10
Asparagus green	8
Beets per doz	25
Bell peppers per lb	25@30
Beans limas per lb	10@12
Beans green	12@15
Beans yellow	10
Brussels sprouts per lb	12@18
Cabbage sack	50@75
Cabbage red per lb	2
Celery per crate	3.50
Chili peppers per lb	20
Chives per doz	1.25
Cucumbers per doz	60@75
Cauliflower	75@1.00
Carrots per doz	25@30
Egg plant lb	15
Green onions doz bunches	20@30
Hubbard squash per lb	1@1½
Lettuce per crate	50@1.00
Mushrooms per basket	1.75
Mint per box	40
Okra	20
Peas sugar per lb	3@3½
Parsley	30
Parsnips	35@40
Rhubarb per box	1.35@1.65
Radishes per doz	15@20
New summer squash per box	1.40
Salsify	40@50
Spinach per doz	15@17½
Turnips doz bunches	35
Tomatoes per box	2.00@2.15

Citrus Fruits.

Navels fy	1.60@1.75
Navels ch	1.25@1.50
Tangerines	1.60
Culls	40
Grapefruit seedless	2.50@3.00
Grapefruit seedlings	1.50@1.75
Lemons fancy	2.00@2.25
Lemons choice	1.00@1.25

Fresh Fruits.

Bellefleurs	2.00@2.25
Baldwins	1.50@1.75
Pippins 4-tier	1.50@1.75
W W Pearmains	2.00@2.30
Colorado Jonathans	3.00
Cal Ben Davis	1.75@2.00
Cherries	1.85@2.00
Loquats per lb	3@4
Dewberries	10
Raspberries	10@12
Strawberries	2@3
Extra fancy	10
Blackberries	10

Dried Fruits.

Apricots	18@22
Evap apples fy per lb	11@12
Figs loose	7
Peaches	11½@12
Pears	16
Nectarines	16
Prunes	3½@5½

Beans Dried.

Limas per ctl	4.75
Pink No. 1	3.50@3.65
Lady Washington	4.00
Small White	3.75@3.85
Black Eyes	4.50@5.00
Garvanzas	5.50
Lentils	11½

Nuts.

Almonds per lb	17½
Pecans polished	16@17
Peanuts Virgina	8½
Peanuts California	8½
Walnuts No 1 SS	16
Walnuts No 1 H S	14@15

Honey.

Extracted Water White	7¼@7½
Comb W W	14

Hay.

Price paid to producers f. o. b. Los Angeles are as follows:

Barley No 1	15.50@16.00
Barley No 2	11.00@15.00
Alfalfa northern per ton	12.50@13.50
Alfalfa local	17.00@18.00
Plain oat No 1	15.00@17.00
Wheat No. 1	15.00@16.00
Wheat No. 2	11.00@12.00

Grain.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl	1.85
Wheat in 100-lb. sacks	1.90
Barley	1.50
Corn Eastern sacked	1.80
White oats	1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn	1.85
Shorts	1.70
Bran	1.55
Oil cake meal	2.50
Feed meal	1.90
Rolled barley	1.55

San Francisco Markets

SAN FRANCISCO, May 5, 1908.

Butter.

Butter advanced immediately after last week's quotations were written and has held firm all the week at 23 cents for extras. Some sales are made as high as 25 cents.

California extras per lb	23
California firsts	22½
California seconds	21½
Fresh packing stock	19½
Fresh packing stock No 2	18½

Cheese.

California young American fy	13½
California flats fy	12½
Firsts	11½
Eastern fy	16½
Oregon fancy	14

Eggs and Poultry.

Eggs have advanced and strengthened in tone during the week. They reached highest mark of the week on Saturday when 22½ was reached for fresh ranch. Present quotation is 2½ cents in advance of last week.

Fresh ranch eggs	22
Eggs firsts per doz	20
Eggs second per doz	16½
Hens per doz	5.00@6.50
Hens extra	7.00@9.00
Young roosters	7.50@8.50
Old roosters	4.00@4.75
Fryers per doz	7.00@8.00
Broilers per doz	4.50@5.50
Geese per pair	2.00@2.50
Ducks young	5.00@7.00
Turkeys per lb	14@16
Pigeons	1.35@1.50

Live Stock.

Steers No 1	8½@9
Do second quality	7½@8
No. 1 cows and heifers	7
Hogs 80 to 200 lbs	6@6¼
Hogs 200 to 300 lbs	5½5¾
Calves per lb	3½@5
Lambs	6@6½
Wethers No 1	5½@3¾
Ewes No 1	5@5½

Potatoes.

River Whites	40@85
Oregon Burbanks	75@1.00
Lompocs	1.15@1.25
Early Rose	1.25@1.35
River Reds	1.35@1.40
Salinas Burbanks	75@1.15
Sweets per crate	2.50@3.25
New potatoes per ctl	1.75@2.00

Vegetables.

Asparagus per lb	5@6
Celery per doz	35@50
Cucumbers per doz	75@1.00
Chili peppers per lb	25
Egg plant per lb	15@20
Green peas per sack	1.00@1.25
Squash per box	50@1.25
Marrowfat squash per sack	60@75
Mushrooms	75@1.25
Hubbard squash per sack	60@80
Onions green per box	60@75
Rhubarb per box	50@1.00
Tomatoes local	1.25@1.75
String beans	2@8
Garlic	17½@20

Onions.

Oregon yellow	3.50@4.00
Eastern Red	1.75@2.00
Bermudas per crate	1.85@2.00
Australian Brown	5.00@5.50

Citrus Fruits.

Navels fy	2.00@2.40
Navels ch	1.90@2.10
Grapefruit seedless	2.50@3.00
Grapefruit seedlings	1.25@1.50
Tangerines	1.50@2.00
Lemons	1.50@2.50
Limes	6.00@6.50

Fresh Fruits.

Newtons	1.65@2.00
Spitzenberg	1.75@2.00
Pomegranates per box	1.00@2.50
Strawberries per ½ crate	1.00@1.25
Longworths per chest	12.00@14.00
Cherries	75@1.25
Aligator pears	1.50@2.00

Dried Fruits.

Apples (evap.)	5½@6¾
Apricots per lb	13@17½
Figs white	2¼@3½
Nectarines	10@13
Plums pitted	12@14½
Peaches	7¾@9¼
Pears	7½@11
Prunes 4-size bag basis	2¾@3½

Beans Dried.

Limas	4.60@4.70
Pink	3.00@3.10
Small white	3.40@3.55
Large white	3.45@3.60
Lady Washington	3.45@3.50
Black Eyes	3.25@3.50
Red Kidneys	3.20@3.40
Garvanzas	4.00@4.25
Bayo	3.00@3.15
Horse beans	2.25@2.40

Hops.

Hops per lb	3½@6½
Hops old fancy	1½@3

Honey.

Clear white comb	16@17
Amber	12@15
Extracted	7½@8
Beeswax No. 1 per lb	26@27
Beeswax No. 2 per lb	23@25

Hay.

Somers & Co. report:

A car of new hay made its appearance on the market on Monday, April 27th. It was a mixture of alfalfa, oat and clover hay and sold for $10.00 per ton. It can hardlly be recorded as signalizing the appearance of the new crop, for oftentimes alfalfa is shipped here during the latter part of April, whereas new straight grain hay rarely makes its appearance before the latter part of May.

With moderation in the buying fever, prices are somewhat lower, especially on choice grade goods.

Choice wheat hay	$16.50 to $18.00
Good wheat hay	14.00 to 16.00
Other grades same	11.50 to 13.50
Wheat and oat	12.00 to 16.00
Tame oat	11.00 to 16.00
Wild oat	10.00 to 14.00
Stock hay	8.00 to 10.00
Alfalfa	9.00 to 12.50
Straw, per bale	.50 to .90

Grain.

Wheat No 1	1.57½@1.65
Barley No 1	1.35@1.40
Corn large yellow	1.67½@1.75
Oats white	1.50@1.57½
Oats red	1.52@1.60

Feed Stuff.

Bran per ton	30.00@32.00
Feed cornmeal per ton	33.00@35.00
Cracked corn per ton	34.00@36.00
Rolled barley per ton	29.00@31.00
Oil cake meal per ton	37.50@39.00
Cocoanut cakes per ton	27.00@28.00
Middlings	33.00@36.00

GREAT NEED.

Oh, that some Burbank of the West
Would patent, make and sell
An onion with an onion taste—
But with a violet smell.

Citrus Mark

LOS ANGELES, May

The general condition of th
market is strong and better
week. Navels are going
rapidly and in all markets
ceived favorablly. Seedlings
mikes and others are now
factor and all commanding
prices. There seems to be
tion now but the season w
with strong prices and that it
a most satisfactory season
the grower.

Lemons are still improving
warmer weather coming
East good returns are an
Foreigns are liberal in recei

Shipments.

Total shipments of citr
date 19,924, of which 2239 wer
Same date last season 17
1703 were lemons.

NEW YORK, May 4.—Tw
cars of navels, four see
blood and one jaffa and one
sold. Market is doing bett
er clear and cold.

NAVELS—

Sunshine fy O G C A....
Sunflower ex fy C C U...
Marguerite ex ch ....
Victory exc C C U.......
El Toro C C U...............
Cerrito T I L V W Brown .
La Mesa R F Ex.............
Laurel Q C Ft Ex........
Princess Q C Ft Ex.........
Stag A C G Ft Ex.........
Tigerhead xch I L L & Sor
Golden Orchard I F Co.....
Medallion........ ....
Wreath S F Co.............

AUSTRALIAN NAVELS

La Verne M L Sparks Lord

SEEDLINGS—

Titus Ranch...............
El Toreador st S M G.....
Niagara fy o r S F Co......
Solano fy o r S F Co.......
Niagara fy o r S F Co.....

ST. LOUIS, May 4.—It
Market is weak on lemons.
sold. Six on track.

NAVELS—

Tallyho S B F Ex Rialto...
Hunter A C G Ft Ex Lat
Palm End A C G Ft Ex L
Pet S A Ft Ex Dimas.......
Greyhound S A Ft Ex Di
La Belle st R M O.........
Lochinvar R H Ft Ex Hig
Belt R H Ft Ex High.....
Pointer T I A C G Ft Ex L
Hunter T I ACG Ft Ex La
Volunteer S A Ft Ex Pon
Blossom xch R M O.........

BOSTON, May 4.—Eight
sold. Twenty-nine on trac
er favorable. Market is s
higher.

NAVELS—

Tulip o r T C C Ft Ex......
Rey S T Ft Ex..............
La Mesa R F Ex..........
Lochinvar R H Ft Ex....
Cosmos S B Ft Ex.......
Winner S B Ft Ex.........
Eagle H F Ex..............
Elephant xfy O G C A.......
Rose xfy R O G A.........
E High C E H C A.........

ST. MICHAELS—

Forgetmenot T C F Ex..
Oakleaf.......... ....
Vallevista st o r G F Co

BLOODS—

La Mesa Ruby R F Ex...
Ostrich Malta S B Ft Ex
Winner Malta S B F Ex....

SWEETS—

Valle Vista st G F Co. ...

SEEDLINGS—

Indpendent fy G F Co....

PITTSBURG, May 4.—Th
sold. Twelve on track. M
from 10 to 15 cents higher
cool.

NAVELS—

Violet D M Ft Ex.........
Trail S T Ft Ex.........
Yankee Doodle H F Ex .
Golden R F Ex.......

CINCINNATI, May 4
cold and raining. Market is
regular sizes. No cars on tr

NAVELS—

Victor S A Ft Ex.. ....
Cluster S A Ft Ex .. ...
Greyhound S A Ft Ex..
Mountain Crest S A Ft Ex

PHILADELPHIA, May 4.—Six
of navels, one seedling and
mixed cars sold. Market is str
It is raining.

NAVELS—

Blue Jay O K Ft Ex ... .

B Ft Ex	2.91
oodle H F Ex	2.61
fy G F Co	3.12
fy G F Co	3.11
HAELS—	
Ft Ex	2.66

LAND, May 4.—Weather Market is very strong ex- n very small sizes. Eight Eight on track.

S—	
F Ex	2.80
oodle H F Ex	2.30
O K Ft Ex	2.65
R H Ft Ex	2.95
B Ft Ex	2.75
B Ft Ex	2.35
Ft Ex	2.50
INGS—	
G Ft Ex	1.90
BLOODS—	
G F Ex	2.30
NS—	
Ft Ex	3.35
d S A Ft Ex	1.95
A Ft Ex	1.90
LS—	
fy C O G A	2.55
Strand	2.45
NS—	
lm xch McG & W	2.20
McG & W	1.95

YORK, May 5.—Fourteen one jaffa, one seed sold. Mar- y strong and higher on all d grades. Weather clear and e. AFTERNOON SALE: Five and two seedlings sold. Mar- ng and active. Weather fav-

CLS—	
a	2.50
Nat O Co	3.35
Girl Gr Ft Co	2.95
Gr Ft Co	2.80
dent Gr Ft Co	3.00
ystone King Ft Co	2.75
Son King Ft Co	2.45
ke King Ft Co	2.20
esta A H Ft Ex	2.75
a A H Ft Ex	2.75
a Riv Ft Ex	3.10
S B Ft Ex	3.00
S B Ft Ex	2.65
A C G Ft Ex	2.70
A C G Ft Ex	2.60
a A H Ft Ex	3.15
A H Ft Ex	3.00
Q C Ft Ex	3.00
ss Q C Ft Ex	2.65
Q C Ft Ex	2.45
Covina Ft Ex	2.80
Red O G Assn	2.90
Red O GAssn	2.75
in Speich & Morgan	2.65
l Red Mut O Co	2.70
on Penn Ft Co	2.65
FAS—	
ra Stewart Ft Co	2.25
Stewart Ft Co	2.00
pendent Grs Ft Co	2.45
Label	1.80
Brand	2.45
Brand	2.50

LENCIAS--BLOODS—La Mesa, Ostrich, $3.00; Winner, $2.70; l, $2.75; Princess, $1.40; Native $1.40. HALVES—B. M. Brand,

VELENCIAS—Rialto Girl, $2.90.

NGERINES—Alta, $2.65.

MONS—Rialto Girl, $2.85; Or- Run, $2.[illegible].

STON, May 5.—Ten sold. Twen- re on track. Weather favor- Market unchanged.

VELS—	
O K Ft Ex	2.85
S T Ft Ex Fernan	2.95
Mesa R F Ex Riv	3.05
kee Doodle High Ft Ex	2.85
er Q C Ft Ex Cor	2.95
Red O G Assn	2.90
Globe R F Ex Riv	2.95
nel S T Ft Ex Fernan	2.80
kee Doodle H G Ft Ex H G	2.80
Patch S B Ft Ex Bloom	2.90
lly Q C Ft Ex Cor	2.85
to Girl Grs Ft Co	2.85
le High Ft Ex	2.95
CBY BLOODS—	
Mesa Riv Ft Ex	2.90

A CHOICE OF EVILS.

Your daughter can come to me for music lessons and can do her cticing at home."

I'd rather you'd give her her les- here at home and have her do practicing at your rooms."— uston Post.

LIVING BY RULE.

'Hello! Glad to see you looking well."

'Perhaps I am. I'm dieting now."

'Nuts, fruit or predigested junk?"

'None of 'em. Three square meals day and a snack betwen times if eel like it."

THE CALIFORNIA LEMON.

Continued from page 525.

vigilance, thorough study of the habits of the numerous insect pests put here for the entertainment of the citrus grower, and the best methods of keeping them in subjection.

The same care must be observed in the packing or curing house in handling. Lemons should be held in the curing house at least a month before shipment so as to eliminate by decay the weak and injured fruit. During their stay in the house, they must be properly ventilated. Excessive moisture should be eliminated, and shriveled fruit avoided. This means careful attention. If held in the house any great length of time, decays must be removed before getting too soft. Before shipment, the fruit must be carefully graded, honestly and neatly packed.

A Gopher Under Every Tree.

I know of nothing that will respond to good care better than a lemon orchard. About a year and a half ago, I purchased a property on which was a ten-acre lemon grove that had been very badly neglected. The grove had never been irrigated during the summer months, since planting; the trees had never been pruned or fertilized; neither had anything ever been done for insect pests; neither had it ever had a good cultivation. There was a gopher under almost every tree. You can imagine the state it was in. I debated in my own mind whether or not it would not be better to grub the grove out, but decided to give it a trial, and see what good care would do for it. I immediately gave it a heavy pruning and thorough fertilization, cleaned up the insect pests, and have kept it well cultivated and irrigated since. During the first year, the place netted about $1500 above all expenses of putting it in good condition. It is now full of lemons and bids fair to make a very good grove.

Don't Be Stingy with the Trees.

The trouble with some growers (of course there are none of them here) is that they are too penurious or too short-sighted to spend enough money to properly care for their groves. Perhaps you will be interested in the following expense account of my 20-acre lemon grove, which produced 18,932 fifty-pound picking boxes during the year 1907:

Tools and implements, 20 per cent charged off	$ 68.54
Frost plant labor	11.04
Harness, 20 per cent. charged off	11.38
Expense—Bookkeeping, telephone, office supplies, etc., including $25 per month charged to orchard for my management	662.77
Horse feed, cost	251.31
Cultvation	276.38
Picking lemons	2307.66
Pruning	164.43
Irrigating	363.65
Fertilizing	545.28
Total	$4662.44 or $233 per acre.

I have mentioned a few of the most important things. There are others necessary to success, but if the average grower will follow the blazed trail and give the same watchful care and attention to detail that is given by the average successful business man to his business, he will succeed.

C. C. TEAGUE, Santa Paula.

THE PROBLEM.

"Do you think it is as easy to make a fortune as it used to be?" asked the ambitious youth.

"Easier," answered Senator Sorghum. "The problem is to do it in such a way that your friends will continue to speak to you."—Washington Star.

It doesn't take much bendin' tu break most men.

It's Service You Really Pay For in a Studebaker

There is more real economy in buying a Studebaker farm wagon than in paying a lower price for some cheaper make. A Studebaker has quality and gives real service. It is built to last and does last as thousands of farmers will testify. Every vehicle is dependable—honest in material—honest in make. That is why the farmers of the country have made the Studebaker the largest vehicle factory in the world.

See the Studebaker Agent and ask him to show you the Studebaker line of farm wagons, farm trucks, buggies and harness. If you don't know one, write to us. If you mention this paper and send us two cents in postage, we will mail you "Studebaker" 1908 Farmer's Almanac—FREE.

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Newell Mathews Co.
Studebaker Agency
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Will not carbonize. Costs no more than poorer oils and is better. Write for price, mentioning style of your engine.
CALIFORNIA COMPOUNDING CO.
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Personally conducted excursions every day from Los Angeles via all routes without change to principal eastern points.
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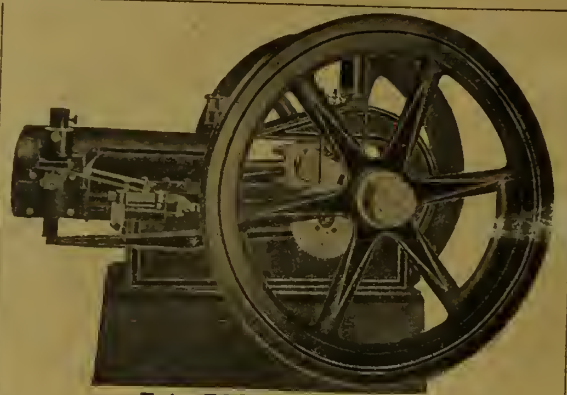

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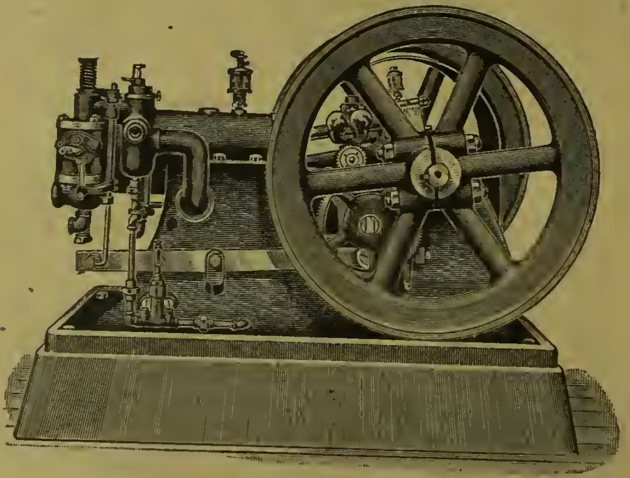

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352 So. Los Angeles St., Los Angeles, Ca

California Cultivator

Published Weekly

One Dollar a Year

Angeles May 14, 1908 San Francisco

An Arizona Cowboy Outfit

THE COWBOY'S SWEET BYE AND BYE.

Last night as I lay on the prairie
And looked up to the stars in the sky,
I wondered if ever a cowboy
Would drift to that Sweet Bye and Bye.

The trail to that bright, mystic region
Is narrow and dim, so they say;
But the broad road that leads to perdition
Is staked and is blazed all the way.

They say there will be a great round-up,
And the cowboys like dogies will stand,
To be marked by the Riders of Judgment,
Who are posted and know every brand.

I wonder was there ever a cowboy
All right for that great judgemnt day;
Who could say to the Boss of the Riders,
"I'm ready, come drive me away?"

For they're all like the cows that are locoed,
That stampede at the sight of a hand,
And are dragged with a rope to the round-up,
Or get marked with some crooked man's brand.

I know there's many a stray cowboy
Who'll be lost at that great final sale,
When he might have gone in to green pasture
If he'd heard of that bright, mystic trail.

And I'm scared I will be a stray yearling,
A maverick, unbranded on high,
And get cut in the bunch with the "rusties,"
When the Boss of the Riders goes by.

For they tell of another big owner,
Who is ne'er over-stocked, so they say,
But who always makes room for the sinner
Who drifts from that straight, narrow way.

And they say he will never forget you,
That he knows every action and look;
So for safety you'd better get branded—
Have your name in the big Tally Book.

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It mixes readily with water, forming a milky emulsion, and can, therefore, be diluted from 50 to 100 times its own bulk, in accordance with the different uses to which it is put.

Thus when you purchase 1 gallon of CRESOLENE you can make up to 100 gallons of the best disinfectant at a cost of only 11-4 cents per gallon. Write us for particulars and guarantee.

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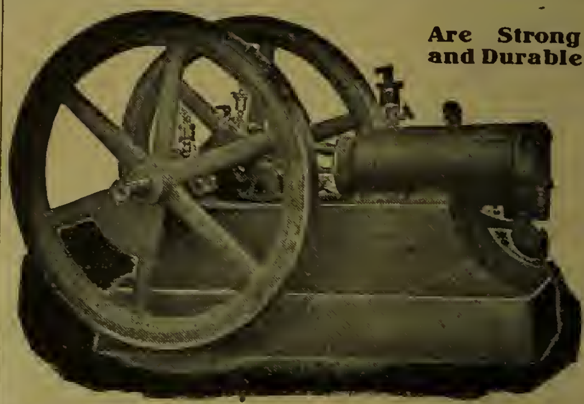

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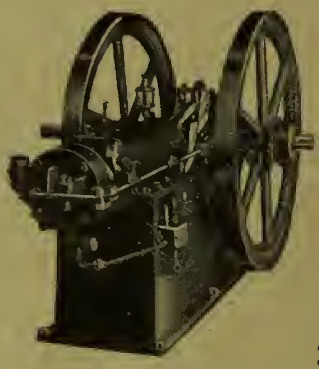

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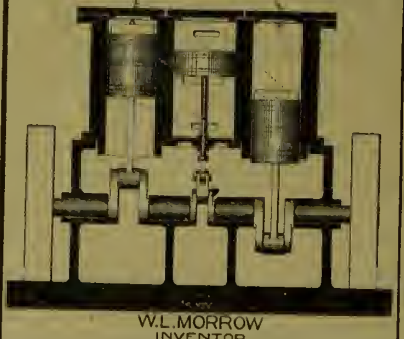

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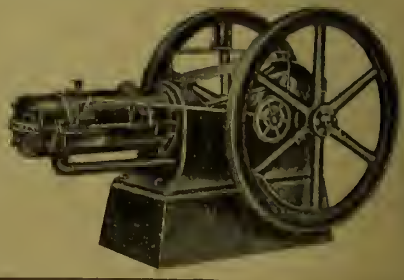

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X—No. 20 Los Angeles, California, Thursday, May 14, 1908 Subscription $1 a Year

intaining Fertility in the Orchard

An Address by Frank L. Palmer of North Pomona Before the State Fruit Growers Convention at Riverside, May 1, 1908

ress delivered at the recent State Fruit
nvention at Riverside, is the one about
ames Mills remarked. "That address, I
classic in the literature of fertilization.
nore information on the question of fer-
an any similar number of words, I ever
ould be in the hands of every fruit grow-
tate."
er has been superintendent of the large
nge orchards at North Pomona for many
s built it into a magnificent estate. One
s thorough study of the soil both as to
content and its mechanical condition.

ve heard a good deal in recent years
t wornout and unproductive farms.
t the year 1890 the so-called "aban-
s" of New England came into special
by reason of the fact that some of
ngland States issued lists of such prop-
e; these lands having been sold to the
npaid taxes. The title of the pamphlet
the State of Massachusetts was this:
e List of Farms in Massachusetts
or Partially abandoned." Conneticut,
shire and Vermont issued similar lists,
ate report for Maine the large number
h farms is mentioned.
tive farms are not confined, however,
w England States. We know, as a
us fact, that the once rich prairies in
l other States of the wheat belt, have
impoverished by continuous cropping
nd is now yielding less than half the
bushels of wheat it produced forty
Many farmers of Illinois grew wheat
e fertile lands year after year until
ld no longer be profitably grown, then
d on to Nebraska and the Dakotas and
he process, and the same class of farm-
ill moving on to seek virgin soil in

man's wasteful method. But let us
a moment from man's methods to nat-
hods. In a state of nature do we find
out by reason of its having been taxed
heavy growth? The early American
pushing their way toward the West,
out forests, clearing timber lands and
g them into farms, did not find this
ovished because it had been growing
shing a forest. No, in nature fertility is
ed by nature's own processes. "In nat-
elements of fertility which have been
n from the soil by plants in their growth
ned to it by their death." In the case of
t lands the original fertility of the soil
only been maintained but vastly in-
by the decay of leaf mold and other
n, and the subsequent formation of
n the soil. Here then we perceive the
of a natural law of replenishment or res-
This law, ordained by the Maker of the
and observed in nature's own processes,
obeyed by man. We must restore to
those elements that we remove from it in
r, failing to do this, we shall bring pov-
on ourselves and upon those who are to
s.

nity for Investigation.

ese facts are perfectly familiar to us.
s no need, before an audience like this,
any argument to emphasize the necessity
ization of our soils. We recognize the
y; we are willing and even anxious to
he law of restoration, but when we ferti-
farms and our orchards we desire to do
ly and intelligently, and we find the sub-
dged about with some difficulties, and con-
problems still unsolved.

It is an interesting fact that it was only about one hundred years ago that the sources of plant food began to be correctly understood. Prof. Snyder says in the introduction to his admirable book that while manures had been used from the earliest times, and their beneficial effects recognized, their action was regarded as mysterious, so much so that the alchemists preached a theory that so-called "spirts" left the decaying manures and entered into the plant, thus acounting for its more vigorous growth. Continuing, he says that among the first to see the relation between chemistry and agriculture was Sir Humphry Davy, who published a treatise on the subject in 1813. Since that date vast strides have been made in the proper understanding of the composition of plants, and of the sources and composition of plant food. Years of study and investigation have been given to the subject by eminent men of many countries, and through the investigations and extensive field experiments carried on by such scientists as Von Liebig in Germany, and Lawes and Gilbert in England, the world at large attained much of its enlightenment which forms the basis of our present day knowledge of these subjects.

Coming down to our own time and to the present day, I think it may be confidently said that a distinct advance has been made in our orchard practice by us farmers here in Southern California during the past twenty years. Fertilization is practiced much more wisely and intelligently, I feel sure, than it was fifteen or twenty years ago. In no respect is this more true than in the general awakening to the value and importance of humus.

Humus.

Humus has been aptly described as the "life of the soil" and this is true in a very literal sense, for it is the home of the bacteria of the soil, those wonderful little organisms which convert the inert fertilizing elements into forms which are available as plant food. When the humus of a soil becomes exhausted, or burned out, these micro-organisms cease to do their work; and under these conditions our trees may be insufficiently fed even though a plentiful supply of fertilizers may have been applied, and this is because of the fact that the tree roots cannot take up fertilizers in the forms in which we apply them. Almost all the fertilizing elements that we use have first to be converted, by the action of the soil bacteria, into other forms that are available to the tree.

What are our conditions here in California? We have a semi-arid region. Our soils contain, as a rule, plenty of lime and potash, but are very deficient in humus and nitrogen. It thus becomes of vital importance that we conserve our humus supply, and add to it in every feasible way. I consider that for our arid region the basis and foundation for all successful fertilization is the maintenance of a supply of humus.

How is this to be done? I know of only two ways. One is by liberal applications of stable manure, or straw, alfalfa hay or other mulch, and the other is by the growing and plowing under of cover crops.

Stable Manure.

The fertilizing effects of stable manures is far in excess of what we would expect from simply studying the amount of plant food contained in the manure. Dr. Wiley of the Agricultural Department has this to say on that point: "The action of stable manure is another instance of the great benefit which is derived from manuring a field with nitrifying organisms. It is well known that the nitrifying ferments of decomposing stable manure are particularly numerous and vigorous. It has long been a matter of wonder among agronomists to find stall manure, when scattered over a field, producing fertilizing results far in excess of what could be expected from the quantity of plant food contained therein. In the light of the facts set forth above, however, these results are no longer surprising. In the distribution of the manure large numbers of a particularly vigorous species of nitrifying organisms are incorporated with the soil, and these and their progeny continue to exercise their activity upon the inert nitrogen of the soil when the more easily nitrifiable portions of the stall manure are exhausted."

Let us, then, use stable manure, and accord to it the high appreciation that it deserves. It is a most valuable fertilizer, particularly for use in old orchards, where, owing to the size of the trees, it is difficult to grow cover crops successfully. Before leaving the subject I desire to add, however, that I do not regard the exclusive use of stable manure as desirable. It is a one-sided, unbalanced fertilizer, being rich in nitrogen as compared with phosphoric acid and potash. In its action it will combine with its nitrogen the available potash and phosphoric acid already in the soil, and year after year the available supply of these two constituents will become less. A bulletin of the New York Station cites the fact that the soil of many farms in that State have actually become exhausted by this process, where the exclusive use of stable manure has continued for long periods of years. Therefore, when using stable manures continuously, it seems to be evident that we should use some form of phosphate with it, and possibly both phosphate and potash.

Cover Crops.

I mentioned the use of stable manure and the growing of cover crops as the two best methods for maintaining the requisite supply of humus in the soil. Cover crops easily rank first in this particular; and, besides furnishing a supply of humus, they are also of great value and importance in other respects. The particular value of clover, peas, beans, vetch and other plants of that family for adding fertility to the soil has been known for hundreds of years, although the reason why these legumes possessed superior qualities in this respect over other plants, is a discovery of modern times. In his bulletin on soil inoculation Dr. George T. Moore has these interesting quotations from the writings of Pliny the Elder: "The bean ranks first among the legumes. It fertilizes the ground in which it has sown as well as any manure. The vetch, too, enriches the soil and requires no attention in its culture."

But the ancient Romans knew only the fact that these legumes acted like manure; the true reason for the fact remained a secret and baffled many investigators and not until the year 1886 was it definitely proven that the legumes are able to acquire and store up nitrogen from the air. This discovery is ascribed to the German scientist Helriegel. Later still it became definitely known that this fixation of nitrogen from the air is accomplished by means of bacteria which gain entrance to the roots of the legumes. Great inter-

Continued on Page 550.

With the Citrus Growers

ORANGE LOSSES.

THE questions of split oranges, July droppings and coarse fruit, are constantly being raised, even though they are old ones and generally considered one of the unavoidable losses that go with the orange business.

Theories that might explain the cause of splitting may be of value in working out the cause but they are of no practical use to the grower unless something definite is realized. While climatic conditions may have certain bearings on the case, there are other elements that surely contribute. This is evidenced by the fact that one orchard will have more split fruit than another though they may be only a few rods apart. And again certain trees will be more affected than an adjoining one in the same orchard and likewise some branches of the same tree will produce a much higher percentage of splits than other branches. There has been advanced the theory that irregular irrigation or lack of moisture or plant food might cause splitting of the fruit. On our lawn is a Washington navel tree that has not suffered or known the need of moisture or plant food for eighteen months, but over 30 per cent of the fruit split this season. The soil has been heavily fertilized with dairy manure and the tree has shown a remarkably uniform vigor from a time before the blossoms came that made the fruit.

Not a little loss is occasioned by coarse fruit that comes from the late bloom; that is, that which comes out from June till late in July. This is very often caused by the trees being short of water at certain times during the summer when climatic conditions are right for blooming. It is not uncommon to see orange trees come into bloom soon after a copious irrigation following a drouth. During the series of dry years that occured in Southern California during the nineties, summer bloom was more universal and abundant than it ever has been since. Many groves suffered because irrigation water was not available in sufficient quantities to keep them in a thrifty condition. When water was turned on the effect was to start a new short growth with more or less bloom.

The quality of this "off bloom" fruit varies in different seasons. Some years it will ship well as standards while this year, for instance, it is exceedingly coarse and dry.

MAKING SWEETS BEAR.

We have heard many complaints of Mediterranean Sweets not bearing and discouraged growers have come to us for relief. Sweets are very erratic in respect to bearing, and while there is no apparent reason for this, no doubt the soil has something to do with it. Trees with ordinary care are in some places as profitable as good navel trees adjoining. In another district they will not pay expenses though to all appearance they are on better soil and the care they reecive gives big returns on navels in the same grove.

There is an orange grove, navels, in Pomona that had a bad record for bearing for a number of years; in fact never had borne enough to pay expenses up to the time it was seven years old. Certain trees were particularly shy in bearing and the owner in desperation cut around the trunk just above the ground with his pocket knife so as to girdle the tree to the extent of cutting the bark clear through but not removing any. This was last spring and to his satisfaction he has a good crop this year. The fruit is not as firm as it might normally be. In January it was rather soft, and though not of very high color, the fruit was as good in this respect as much that grows normally. The permanent effect on the tree does not seem to be serious, only a ring of rough bark showing where the cut was made.

We do not recommend this method to orange growers who have trees that do not bear, but if we had trees that acted that way we would surely try it on a few of them after other methods had failed. Girding is a practice followed in the past more than at present, by many apple growers in the East. This has been demonstrated to be poor horticultural practice inasmuch that proper thinning will make an even distribution of blooms throughout a series of years. In the case of Mediterranean Sweet oranges, it is quite a different problem as there is seldom a dearth of blooms which fools the grower by setting a good crop which proceeds to fall off a little later.—J. W. Mills.

Packing House Equipment

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HAVING been drafted by the State Commissioner of Horticulture to speak on "Packing House Equipment," at this convention, I have accepted the duty under protest. My experience as a packing house manager does not qualify me to tell men of long experience, and in entirely different situations from my own, what they do or do not need. I can at least open the subject and give some details from my own experience.

The most important item of equipment is not machinery, nor any contrivance or device to hurry our perishable fruit from wagon to car. I would place absolutely first a body of growers who would demand from the packing house management that the fruit they had labored nearly a year to bring to perfection, should be handled as to prevent its decay while on the way and after its delivery to the buyer.

While packing house managers have been open to blame, (mainly for consenting to handle fruit improperly,) it would be very hard to find a manager who would resist an effort made by his growers to insure greater care in handling. In my experience the grower is to blame, not the manager. Some growers will help the manager by picking and delivering fruit in the most careful manner. Other growers will do neither, and their neglect when their fruit is

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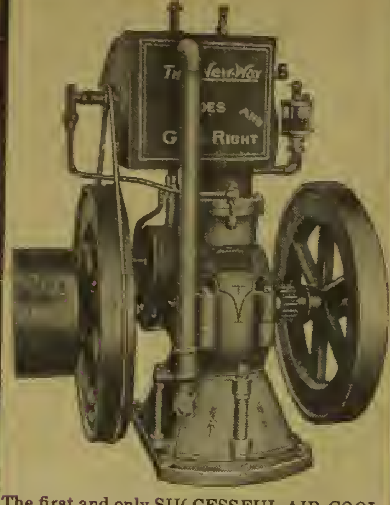

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1 "	1.67 "	4.00	5.00
1¼ "	2.24 "	5.65	6.90
1½ "	2.68 "	6.50	8.00
2 "	3.61 "	9.00	11.00
2½ "	5.74 "	15.00	17.50
3 "	7.54 "	18.25	21.25
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e first and best item in
House Equipment."
ond item is the packing
the main force in that is
an. I do not believe the
can be done by any mana-
s he controls the fruit from
the car. In no other way
x responsibility. The grow-
do nothing but watch and
foreman; unless he will
ıe crew with the other pick-
under the foreman. The
ust expect to pay more for
hen clipper cutting and long
not tolerated. No picker
as many boxes of perfect
y boxes is about the limit,
e fruit is small it may drop
five boxes. In my own ex-
constant inspection at the
ıouse is necessary to insure
vork. Several times when
small, the men would pick
an before, and we had to
m we wanted perfect work,
an quantity. In our crew
ın keeps tally of his boxes
s them, and also numbers
the end in pencil so the in-
can examine a certain num-
ıch man's pick daily. I pre-
er cuts to long stems. Some
uts heal over, but the possi-
f the long stem to cause in-
decay are about five times as
Ve cut stems twice, and we
twigs or leaves in the boxes.
the picking sack to the left
cut out that source of decay.
the pickers all the time to
work right, and find it is
y. Full boxes are ordered
the shade of the tree, and we
ces of canvas that cover two
e boxes to keep off sun and
ain.
ıaul to packing house in
two feet from the ground;
If we save them loss. When
find out that most decay is
ıble, it will be hard to sell
t has been carelessly handled.
gate six feet long drops to
ind and serves as a bridge up
the boxes are carried and
put in place. The wagon holds
es, two rows wide and six
front wheels 48 inches diam-
nd wheels 54 inches. We use
horses abreast. Every sixth
s cleats under it and is sten-
black, so it can be seen any-
o enable the men to put these
bottom of each tier, so we can use a truck with a twelve-inch nose to convey six boxes at a time from the wagon across the end gate (now used as a bridge) from load to packing house floor. My time is probably up, but I have given what I consider the most important of "Packing House Equipment."

The elevator, the clamp truck and the rustler, were all undesirable features in equipment. We have cut out the elevator by dropping the floor of the house below the grading table twenty inches, so we feed on to the sizer almost horizontally. When necessary to weigh, we empty the bins and use small platform scales. All our culls are carried to a bin and reinspected by the foreman. I think I pay his wages out of the cull bin.

We use no brusher; if fruit is dirty we grade it out and clean it. If one child is sick, it is better to dose it and not give medicine to the entire family. At the dump we have a piece of canvas with a board attached so that it meets the box as it comes up and covers enough of it to make the oranges crumble down inside the box instead of flying out. They fall on rubber hose spaced apart to let buttons, sticks, etc., fall through at once, but clean picking has almost cut them out. The hopper below the hose grating is smooth, hard board as the fruit does not fall on it.

We use Praed canvas bins. When packed the boxes are placed on ball-bearing roller conveyors, 26 inches high, the height of the press. The fruit is clamped sideways, away from the edge of the box before it is pressed down, and it seems to prevent injury when carefully handled. When nailed the boxes are shoved on the conveyor and run by gravity into the end of the car if needed, or off to the side of the house to be stacked.

Not all of the work in our house is adapted to all other houses, but the determined growers, the intelligent manager, the picking crew, the careful hauling and handling, are after all the best equipment for any house, and when you have these, no device that can possibly injure fruit will be tolerated.

Let us pick and pack our fruit to save ourselves loss; now that the Department of Ariculture has spent $36.-000 to show us how to minimize decay; knowing that the trade will pay

---

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Atheletes at the University at Oxford, England, have found that oranges used as a regular feature of their diet have aided in maintaining health. Orange juice is said to be also an antidote for the influenza germ, and does actually supply muscle to men in training, or at least assists in the formation of muscular tissue. The men are encouraged to eat of them liberally.

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CROPS BETWEEN TREES.

THE practice of growing crops between orchard trees is a most economical method where a convenient and economical water supply is at hand. The independent pumping plant is the ideal water supply for this kind of farming. If there is no water supply available to irrigate an orchard or inter-growing crops, it is bad policy to attempt it as not only will the trees become dwarfted, but the inter-crops will not be as good as though they had all the ground to themselves. We once planted a peach orchard and the same spring planted watermelons between part of the trees. Both made an excellent growth, the melons bringing $60 per acre, but the peach trees shed their leaves a month before their time and from then on as long as the peach trees were alive, those among which the melons grew, never bore as well nor as much as did the trees in the balance of the orchard where no melons were planted. This condition continued all during the life of the orchard.

It is best not to grow any crop so close to the tree rows that a strip four or five feet wide cannot be cultivated on each side of the rows and in conjunction with this enough irrigation to keep both trees and crop in a thriving condition, with a liberal amount of stable manure, there is no reason why the inter-growing crops in a young orchard cannot be made to not only pay for the care of the trees till they come into bearing, but yield a handsome profit besides.

It was not many years ago that the growing of alfalfa between orchard trees was considered poor practice, but it is now quite common and in some cases where the fruit crops had always been light, the result was an improvement in the yield, besides the several crops of alfalfa hay. These conditions can only be realized when plenty of irrigation water is available. —J. W. Mills.

CHERRY FAIR.

At a recent meeting of th Board of Trade the following tee was appointed to take c our annual Salem Cherry Fai Power, C. A. Park and H. The Salem Cherry Fair is on best horticultural displays fruits that we have in the no It will be held about the 1 th About thirty to forty cups wi fered as premiums and a lar ber of diplomas and other pri connection with the cherrie are displays and premiums f eral fruits roses and sweet pe we desire as many nurserym florists present as possible. Th Cherry Fair being held at meeting of the Pacific Coast tion of Nurserymen, affords men attending that meeting a tunity to attend our fair w convenience to themselves. Power, Chairman Cherry F mittee.

MAINTAINING FERTILITY ORCHARD.

Continued from Page

est was awakened in the subj country when Dr. Moore of Agricultural Department p method of soil inoculation w trogen-gathering bacteria, a cultures were prepared and farmers in many differen This has very naturally re giving a special impetus to t ing of cover crops, which has e even to the orchards of C But, whatever the cause, growers are sowing peas an and fenugreek in the orch more extensively now than w practice fifteen years ago.

Concluded next week

The Philippine Agricultural is a monthly publication j by the Bureau of Agriculture ment of the Interior, with it publication at Manilla, P. I an excellent review of the agr condition of those islands.

Packing House Equipment

Continued from Preceeding Page.

us well if we save them loss. When dealers find out that most decay is preventable, it will be hard to sell fruit that has been carelessly handled.

I presume "Packing House Equipment" was assigned to me because the Commissioner thought there was something unusual in my house in the way of "equipment." There is little in it that is original; it is only the adaptation of other men's ideas, picked up here and there, but always with the purpose of simplifying the work and handling fruit with care. We have coddled the lemon and abused the orange. Having no lemons we coddled what we had and the oranges got the easy handling. They have responded as Mr. Powell predicted they would, and the market seems to have appreciated the care. I think the packing house equipment has been a small factor only. It is care, not equipment, that has done most to lessen decay. No equipment will take the place of anxious, systematic care from the tree to the car. I am forced to this conclusion by finding houses which have a less careful equipment than ours, but whose field care and hauling is of the best. I would rather take any packing house and pick, haul and pack for it with care, than take the costlie ment designed for careful and rush fruit through it so c not be given.

It was a mystery to me Chapman could sell orang high prices. Then it beca tery how the National O could get such figures. Then Brown put me in a brown began to remember that Mr. P said nearly four years ago t Chapman was the most caref er in California. As I knew t ional Orange Co. and Mr. Brow following Mr. Powell's suggest proof seemed positive that the something in it.

Later I knew of a packer "Mr. Powell is a humbug." I in the market report and saw packer's fruit sold at $2.40 for fancy, when three orchard run for over $3.00. That proved it tively, and I built a house with a shield on the corner, on whic gold letters, is inscribed:

"In gratitude to the U. S. Dep ment of Agriculture, the Bure Plant Industry, G. Harold Powell his staff, this building is dedicat the careful handling of Citrus Fr

It is not dedicated to "Equipmt

gation and Forestry

APPALACHIAN BILL.

AST is awakening to the ne- y—the immediate necessity aving its forests. The West n this, but now some help expected, for trip-hammer being given to awaken the to the danger which con- n. The following is from an in the May Century:

work of saving the forests— is left of them by the igno- d rapacity of corporate and ownership—is to be set on e for all, without false starts, be undertaken not only in a spirit, but with imagination. to learn what has been wast- he century past—public re- probably sufficient to have nnecessary for any American o have paid a cent of tax. needed, is to project the mind rs ahead, to consider the prob- he light of the enormous for- pulation that is coming to us ning from us ghastly lessons of aire—a policy which in mat- orestry their own governments rned through disastrous expe- o abandon.

Spirit.

are unmistakable signs of a in the excessive individual- go-as-you-please, every-man- elf, I-may-do-what-I-wish- -own views of life. A new upon us, with a new definition nt domain, enlarging its scope ontrol of private interests that the injury of the public. This ocialism in the violent sense of rd; rightly conceived, it is a se of brotherhood. Its princi- You ought not to get your hap- t the expense of your fellow- t does not point to confisca- n the contrary, it promises to a working substitute for an- It may easily be misapplied or too far. But it is not more ous than certain false methods orate ownership and the equal- nnical excesses of trade union- hich together have created so of the new social unrest. The of progress points to a more ex- way.

the Weak.

apply this to a single aspect of estry question: Why should of enormous tracts of moun- orests be permitted to denude to the manifest injury of the ture, navigation and commerce valleys and streams which they ? We are accustomed to think ure as a dominating force, it modification by human ac- the most constant of phenom- The life of man has been de- substantially a warfare the animals, against his fel- and against the face of nature. he business of government not mote, but to restrict this war- as it has done in the reserva- of western forests—one of the important notes of progress the y has struck since the Civil It is the office of the wise not o protect the weak against the , but to protect the foolish from elves.

Countries Awake.

ere are signs that in this mat- her countries are awake to their peril and responsibilities. British Columbia is taking Time by the forelock and, by a sweeping act, reserving for governmental control every acre of forest land not already leased. Colombia, in South America, has also passed new forest laws in keeping with intelligent modern public opinion. The conference cannot directly legislate, but its recommendations and influence ought to shape a policy of coöperation between the nation and the States along uniform lines. The Appalachian bill is a step in the right direction, and ought to be enacted, but we must go farther, considering the forests of the country, with all due respect to private ownership a heritage of posterity.

Madness to Defer.

"An important and commendable step has just been taken by the State of New York in the purchase of Mount Marcy and other peaks of the Adirondacks at the very headwaters of the Hudson This policy should at once be continued until the reservation reaches its maximum extent. Then the whole tract should be administered under a system which, while guaranteeing private rights, will give the State supervision of the cutting of trees. The public health, the interests of agriculture, commerce and navigation in New York and Pennsylvania call imperatively for a large-minded and immediate consideration of the whole subject. "Be wise in time; 'tis madness to defer."

THE CONFERENCE OF GOVERNORS.

The consumption and waste of our natural resources is proceeding apace. But whenever efforts have been made to meet this situation, difficulties have arisen from the facts that the conditions of one community are affected by the actions of another over which it has no control; but the preservation of one form of natural wealth involves the protection of others, and that none can be managed independently of others. Effective action has been blocked because there has been nobody broad enough to formulate a plan sufficiently comprehensive.

Such a body is now provided by the conference on the conservation of natural resources, which the President has called to meet him in the White House on May 13, 14 and 15. This conference will represent every part of the country, and all the country's needs. By direct personal contact, the members will be able to come to an understanding of the various inter-related problems and of what will be required of each part of the country to make a general scheme possible.

This conference will be the most remarkable in the historic-mansion. It will deal with problems upon which the continued prosperity of the nation vitally depends. For this reason its deliberations will be more fundamentally important and far-reaching than any since the days when the republic was planned. Never before have the chief executives of all the States met in one body presided over by the Chief Executive of the Nation, and never before has there been a subject bigger or broader to cause such a meeting.

The steps which led to the calling of this conference are particularly instructive in the way in which they emphasize the close inter-relation and inter-dependence of all the natural sources of the Nation's wealth, and the fact that any attempt to conserve one set will soon involve the protection of others.—Forestry and Irrigation.

am Separators, all sizes, all prices. Weber Co., 555-557 S. Los Angeles , Los Angeles.

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NO need to go up stream and construct miles and miles of ditch to get the water high enough.

Place one of the powerful I. H. C. gasoline engines on the stream where it is nearest your land. There are large engines for irrigating on a big scale and smaller engines for small farms.

These engines are the best means for raising and utilizing the underflow; also for raising water from lakes, ponds, and wells, and also running streams.

They will raise all the water you need and deliver it just where you want it—in the ditch or in laterals.

The first cost of one of these I.H.C. gasoline engines is, in almost every case, less than the building of a long ditch to enable the water to flow naturally to the land.

And the cost of running is always less than the cost of keeping the ditch clean of drifting sand, silt, weeds and fast growing bushes.

In many cases, an I. H. C. engine enables you to reach the knolls and other high places which you cannot reach at all by ditch without expensive flumes that are "tumble-down" and must be repaired every spring.

The engines are made both vertical and horizontal and in many sizes from 1 to 20-horse power. They are easily controlled and run dependably. The irrigator does not need to give them constant attention.

Only an occasional return to them, to replenish the fuel and water supply, is all that is necessary. One man can handle the head of water in the field and at the same time attend to the engine.

International local agents will furnish catalogs and give particulars on all sizes of irrigating engines. Or write the nearest branch office.

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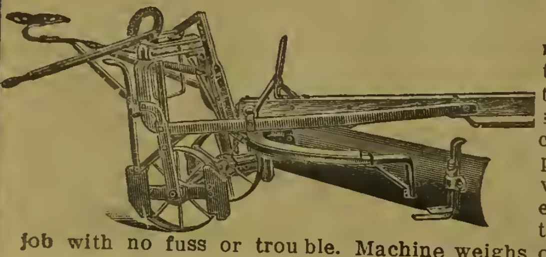

Those big costly road machines have stopped thousands from making the roads better in their sections. But now they can get a light, easy-to-pull grader and do the work quickly, cheaply, easily. One man and a team can do almost every job with no fuss or trouble. Machine weighs only 600 pounds. It is the

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Made of steel and Malleable Iron; strong, stiff and adjustable to every need in road building, land leveling, ditch digging, railroad grading, etc. Our handsome new booklet is free and tells all about the machine with large illustrations. Send now for it and learn how to make good roads cheap. Address

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Large stock of the very best goods of all kinds at the lowest prices. Come and see us, or mail your orders; you will be treated right. Send for free Catalogue.

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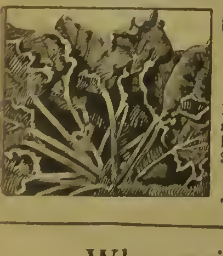

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The Ornamental Garde

SHRUBBERY.

influence. It supplies the happy IN the arrangement of the home grounds shrubbery lends a valuable medium which blends the taller, stately trees and the smaller perennial and annual flowers of the informal border into one harmonious whole. And the whole affords a most desirable setting for the house, which is the fundamental feature of the home.

With almost equal advantages it can be independently used for manifold purposes, as hiding the bleakness of house, screening unsightly objects, such as chicken yards, out-houses, ash lattice work, filling vacant corners about the grounds, relieving the bareness of the nooks and corners of the pits, or even the premises of a less tidy neighbor, defining the boundary of the formal flower or vegetable garden, and such other purposes as may suggest themselves to the eye of the beautifier.

In establishing shrubbery beds for any of their various purposes it is desirable that the more sturdy, vigorous kinds be placed in the background, or in case they serve a double duty, the taller may be placed in the middle of the bed, so as to provide a gradual blending of the whole with the more delicate and refined types in front. Avoid setting in rows; rather uniformly group them in broken lines.

As a general consideration, one should not attempt too great a variety of shrubs or grow them as isolated specimens, particularly in the open lawn in front of or about the house. Such specimen plants should be placed in more selected spots where they will not mar the landscape by their abruptness. However, several varieties or types of shrubs may be grown about a small place, if care is taken to see that the foliage and floral features blend into a harmonious whole. Peculiar or freakish specimens should be avoided about a small place. For the ordinary home a few well-selected types properly disposed about the grounds will give more desirable results, and there is really no valid reason why every home should not be appropriately beautified and brightened by the addition of at least a small amount of shrubbery. After becoming established, but little attention is required and the expense is small. However, the shrubs will respond readily to more careful attention, and such care will serve to relieve the drudgery of the farm home and add zest to the city residence.

In making the selection of stock consult and deal with only the most reliable of nurserymen, being willing to pay a fair price for a good quality of article.

Having determined upon the location of the beds for the shrubbery, they should be well spaded to a depth sufficient for proper planting. Dig up the entire bed, adding a considerable quantity of stable manure, and if the soil is of a clayish texture, the addition of a quantity of sand will be beneficial. The whole should be well spaded, mixed and pulverized, in order to furnish a congenial environment for the shrubs which will gratefully respond to this good treatment.

Very many people do not place sufficient stress upon the care required in settling shrubs or plants of any kind. Nothing so endangers ultimate success as careless preparation of the soil, as well as subsequent setting of the plants.

In performing this last op be careful to remove all bruis broken roots with a sharp kn the same time cutting back th severely to a proper relation w root system. The roots sho spread out carefully in their position and covered with fin so the plant gently shaken up and in order that no open spa m main about the roots to in

Before filling in all the bucket or two of water to e even if the ground is quite m the distance to carry the wa great. The presence of water time settles the soil about the more firmly establishing th provides a congenial condit stimulus for prompt action.

Fill in the remainder of t and if dry weather threate liberal coating of mulch to r moisture.—L. M. Montgomery dener, Colorado Agricultura Fort Collins.

A SUN-DIAL.

The old-fashioned sun-dia and more coming to its own ing to the quaintness and many a garden. They are tively inexpensive and attrac tion and create interest as other features.

For over two thousand ye instrument has marked time human race, "simple, silen lime. Its attractiveness is inc by the addition of a motto, w usuany on its face. The C has given some of the mottoes Here are others:

"Life's but a shadow,
Man's but dust,
This dyall sayes,
'Dy all we must.'"

"Set me right and use me w
I ye time to you will tell."

"I mark time. Dost thou?"

"Time is valuable."

"I wait for no one."

"Be the day weary,
Be the day long,
Soon it shall ring to eve

These mottoes may be cast face of the dial and give a c which a plain dial will not ha

So far as we have heard man in California, Mr. W. A mour of Los Angeles, is d dials, and he has been com to make a number for fine Los Angeles.

PLANTING EVERGREE

When the weather gets wa good time to plant all kinds greens such as eucalyptus and and from that down to smal With proper handling it is al for olives. The roots of ev as well as of all other kinds should never be allowed to get the best results are desired. good time to plant wayside they can be attended to pro to watering, etc., but if th not be given good care, b defer it until it can be given, f sickly-looking tree by the way looks worse than none at all.

Watch the canna bloom and ma the best ones now to be taken up the fall for next season's planting.

Put fresh cut carnations in wa in a cool room. The stems w stiffen and the flowers will sta shipment and rough usage much be ter than where they are picked an packed at once.

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THE PUMP THAT PUMPS

The Vegetable Garden

GREW ONIONS AS MILD AS APPLES.

IN buying onions in the markets, we were accustomed to getting the hot biting kind, though we tried every color, white red and yellow. To be sure we were able to buy Bermuda onions, but as these sold at a pretty stiff figure we were wont to buy them only when wanted for eating raw.

Studied the Catalogues.

When we had a garden of our own we began to study seed catalogues and read up on varieties of vegetables, onions included, and the high praise given the Prizetaker induced us to get some of the seed. As one-fourth pound could be bought for nearly the same price as a packet, we invested in the former quantity, thinking to save what was left over till the next year.

We had studied how to grow onions to such good purpose that we were able to prepare the soil and plant the seed as directed. When ready to give the final pulverizing of the ground before planting the seed a liberal sprinkling of wood ashes was scattered over the plot and carefully raked in.

We sowed the seed rather thickly, so as to be sure of a good stand, and still we had considerable seed left after the plot was planted. Learning from a reliable source that onion seed was not likely to germinate after it is two years old, we thought best to take no chances but plant the seed as directed for growing "bottom sets," though none of the catalogues mentioned using Prizetaker seed for this purpose.

As this is not intended to teach the process of growing onions, but rather to show how we succeeded in getting onions of mild flavor, I will pass on to the end of the season, saying only that where the onions were too thick to do well we transplanted the thinnings. setting the young onions about four inches apart, and, by the way, these transplanted onions made large, fine bulbs the equal of the others.

As soon as any of the onions were large enough to use, we pulled those that interfered with the room needed by their neighbors until they stood three to four inches apart. The young onions were tender and of delicious flavor, and when the remaining ones were matured we enjoyed raw onions as we never had before, except when eating Bermudas.

Stored the Sets.

The sets were pulled and stored away carefully for planting the following spring and we will pass on to that, as that is the real sequel of this tale. We had thought the hand weeding of the small onions a very tedious affair, for the seed being very slow of germination the more quickly sprouting weeds lying near the surface soon quickened into growth and were visible long before the onions were. But in spite of this we planted some seed again, as we were not sure how our venture with the sets should turn out, and we did not wish to be deprived of our precious mild-flavored onions, the liberal eating of which had saved us more than one call from the doctor.

Planting the Sets.

The sets were of different sizes, so we sorted out the largest, those from three-fourths to an inch in diameter, and planted these by themselves. The others, which were about a half inch in diameter, were planted in rows about 16 inches apart with a little greater space between them than between the onions grown from seed the previous year. We wished, if possible, to avoid the tedious hand pulling of grass and weeds, and expected a narrow rake and hoe to keep the space between the sets clean, as well as the ground between the rows.

The soil was made very rich by heavy applications of poultry manure, which had been composted and was evenly mixed with the earth, and we were looking for some fine bulbs, but were hardly prepared for the wonderful growth these sets made. By the Fourth of July they were large as teacups, and when ripe the crowded each other in the row and averaged five inches in diameter. They were mild as apples and we found them in great demand in our immediate neighborhood, as the fame of "those mild-flavored onions" spread. We never again grew onions from seed, for we had found a better way, one which involved far less labor and brought more certain results.—Mrs. Mary Roe, in Coleman's Rural World.

RAT POISON.

Destruction of rats is strictly in good form these days and thoroughly good economy. Where they burrow or are confined in close quarters they may be destroyed with carbon bisulphide. A wad of cotton is saturated with the liquid and pushed in burrow which is then packed with soil to prevent escape by gas. This must not be used where there is danger of fire, as it is explosive.

A couple of formulas for poisoning are here given:

Barium Carbonate.

One of the cheapest and most effective poisons for rats and mice is barium carbonate or barytes. This mineral has the advantage of being without taste or smell; and, in the small quantities used in poisoning rats and mice, is harmless to larger animals. Its action on rodents is slow, but reasonably sure, and has the further advantage that the animals before dying, if exit be possible, usually leave the premises in search of water. Its employment in houses, therefore, is rarely followed by the annoying odor which attends the use of the more virulent poisons.

The poison may be fed in the form of a dough made of one-fifth barytes and four-fifths meal, but a more convenient bait is ordinary oatmeal, with about one-eighth of its bulk of barytes, mixed with water into a stiff dough; or the barytes may be spread upon bread and butter or moistened toast. The prepared bait should be placed in rat runs, a small quantity at a place. If a single application of the poison fails to drive all rats from the premises, it should be repeated with a change of bait.

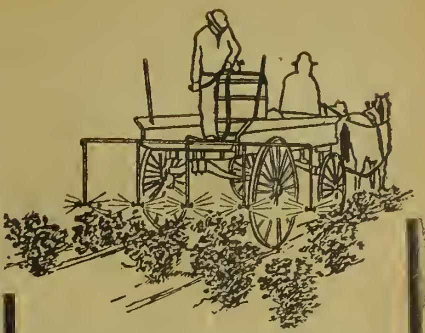
Strychnine.

Strychnine is a more virulent poison, but its action is so rapid that the animals often die upon the premises, a circumstance which prohibits its use in occupied dwellings. Elsewhere strychnine may be employed with great success. Dry strychnine may be inserted in small pieces of raw meat, Vienna sausage or toasted cheese, and these placed in the rat runs; or oatmeal may be wet with a strychnine sirup, and small quantities laid out in the same way.

Strychnine sirup is prepared as follows: Dissolve a half ounce of strychnia sulphate in a pint of boiling water; add a pint of thick sugar sirup and stir thoroughly. A smaller quantity of the poison may be prepared with a proportional quantity of water. In preparing the bait it is necessary that all the oatmeal should be moistened with sirup. Wheat is most convenient alternative bait. It should be soaked over night in the strychnine sirup.

Poison in the Poultry House.

For poisoning rats in buildings and yards occupied by poultry, following method is recommended: Two wooden boxes should be used, one considerably larger than the other, and each having two or more holes in the sides large enough to admit rats. The poisoned bait should be placed on the bottom and near the middle of the larger box, and the smaller box should then be inverted over it. Rats thus have free access to the bait, but fowls are excluded.



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SWEAR BY YOUR OWN SECTION.

Are you proud of your own community? If not, join hands and make it such that you and all your neighbors will be proud of it. The last man on earth which any community has any use for is the knocker. Abraham Lincoln once said:

"I like to see a man proud of the place in which he lives. I like to see a man who lives in it, so that his place will be proud of him. Be honest, but hate no one; overturn a man's wrongdoing, but do not overturn him unless it must be done in overturning the wrong. Stand with anybody that stands right, and part with him when he goes wrong."

There are few places in California which does not have abundant conditions which will go to make a productive and beautiful section if those who are developing it work to their limit and then are proud of their work.

Look at the Colorado Desert where conditions were the most forbidding it is possible to imagine, and the bones of many a man have been left on these plains to bleach because of the death-dealing heat of the sun. But that same heat, with the addition of water today, is making that one of the most wonderfully productive sections in the world, and you cannot come in contact with an "Imperialite" or resident of the Coachella valley but instantly they begin to brag of the wonderful country which is being developed.

"Be proud of the place where you live"

THE PARCELS POST BILL.

It was to be hoped Congress would pass the Parcels Post Bill before adjournment, but that consummation is hardly to be expected.

The rural delivery came as a much felt necessity and has proven highly satisfactory to the farmers of the land. It brought the farm into close communion with the town and city, and relieved it of the loneliness which has been the complaint of the rural residents, especially the women. It has added to the value of farm land because of its general utility.

Following closely upon the rural mail delivery is the telephone, which has still more closely welded country life to city conveniences. Almost every well appointed farm home is today the possessor of a telephone, and the value of the same is appreciated by the fact that the owner will not do without it.

The way to acquire the parcels post law is to importune Congress to pass the bill. The Post-office Department has recommended its passage and it rests in the pigeonholes of the committee to which it has been referred.

With the advent of the parcels post system when packages will be delivered by rural carrier at the rate of two and three cents a pound, the modern conveniences for country life will be about complete.

MORE PURE FOOD RULING.

Now the shoe is on the other foot, for the Pure Food Commission at Washington has drawn the line at importation of food stuffs which have been colored with sulphate of copper and chemists are investigating the effect of this coloring stuff upon the human system. This appeals to us as far more sensible than the objecting to fumes of sulphur which are all carried away in the cooking of dried fruits. However, our interests are at stake here which may seriously affect our judgment. But in any case we trust that all producers of food stuffs who are as honest as the California producers of dried fruits are, will secure justice in these pure food rulings. We also hope that the justice will be secured without making as strenuous a fight as was necessary with the California growers and also with less injury to the industry before the matter is started toward a sane solution.

APPROPRIATION FOR AGRICULTURE.

The Senate passed the House Agricultural Appropriation Bill which carried a total of nearly $11,000,000 excepting that it made an increase in it of over $1,500,000. This was after a controversy over the forest service which lasted for more than a week. Many Western senators attacked the appropriation for the forest service on the ground that the government was interfering with the rights of the State in withdrawing from settlement great tracts of land for reserves. Senator Teller of Colorado was one of the strongest in making this fight. The total appropriation for the forest service was $1,000,000 or twice as much as had been granted by the House, but this was half as much as was requested by the Service.

GROWN IN CALIFORNIA.

The movement to make a slogan of "Made in California" or "Grown in California" by the manufacturers and growers of this State seems to be attracting much attention and favorable comment. A catchy advertising phrase often has made wealth for the advertiser, and it is sure the word "California" will do to conjure with. It has been advertised the world around as but few other words. Let us increase it and take up the suggestion which has been advanced by the Curtis-Newhall Company of Los Angeles, and burn in a little deeper the word "California" by using the phrase "Grown in California" on all California fruits and products.

TO ELECT BOARD OF AGRICULTURE.

Oklahoma is the first State to recognize the organization of a State Board of Agriculture direct by the farmers. Under her new constitution it is provided that ten members are to be elected by farmers. By a recent act of the Legislature $101,000 was appropriated for carry the important work that has been assigned care of the board. The county farmers' In t the State quarantine laws affecting live sto the enforcement of other laws.

The outcome of the experiment will be wa with interest, for if it proves a successfu the likelihood is that other States will a their laws to conform to the idea in the homa constitution.

COVER CROPS.

Many sections of California, espec southern part, have extensively gro leguminous plant in the orchard to be under for green manure. This has bec almost universal custom in orange grow tions. The effect on the soil, both me and chemically, has been proven to be v eficial and the custom is continually e Now we note that apple growers of t mette Valley are treating their orchard same way and find great benefits from of this system. The restoration of hum soil not only lengthens the period wh be worked, but reduces very mate amount of work which must be done t in condition for sowing and planting. I probable that the grain grower, as w fruit growers, may derive great profit f ing under green manure.

BOUNTY FOR FOREST PLANTING.

An exchange makes a suggestion might be a good idea in this State to e the more liberal planting of forest trees exemption from taxes or by offering a b all new plantings which have been prope for until well grown. We believe it is a which will bear discussion on the part o tutes, granges and conventions to the e encouragement shall be given to more planting of trees. In Wisconsin all lands in for taxes and becoming the property State are at once planted to forests or ex for other lands to be planted.

FREE SEED UNDESIRABLE.

The free seed distribution scheme government has proven unsatisfactory. to be abolished. It doesn't belong to vanced age of methods or ideas. It costs ernment a great deal of money annually tain the seed bureau, and it doesn't ju cost, when the character of the seeds into account. Most of the seeds received people throughout the country amount to tle for many reasons. The majority of p prefer buying or otherwise securing the they need according to the individual need money expended by the seed bureau if other lines of improvement, like the par would be of infinitely greater value to th

---

The management of the apple show at Spokane, Washington, December 7t have announced that a purse of $1000 in be awarded for the best single apple e This is a big winning from the exhibit a single fruit, but it will doubtless result in amount of study and observation as to w stitutes a perfect apple.

Shop Talk

TO THE HOUSEWIFE: We want your attention this week to the **Ice Cream Candy Recipe Book** which is advertised other page.

Every household enjoys home-made ca ice cream and this book is somethi everyone can refer to quickly and ge that are just what they want.

It is just put on the market, so it is up and at the same time contains all the good fashioned recipes as well; in all, 300 formu

It is a regular 50c book nicely bound but w will send it to **Cultivator** readers who send us year's subscription entirely in advance. If arrears it will be necessary to send also amount due to date and also the year in advanc Orders must also come direct to the office. it today. It is really something for nothin

ricultural Notes of the Pacific Coast

ern California

y is promised a bumper .

es of rice has just been Biggs.

ting has begun in many he valley.

ts at Hamilton City are pid growth and looking tory.

tion has been formed at or the purpose of secur- r irrigation.

show of the Petaluma pers' Association will be er 14th to 19th.

usand dollars worth of pliances were destroyed oodland last week.

land are being alloted to Indians, about a thousand g entitled to parcels.

it growers report that the little damage and prom- for a good output of fruit.

ke near Susanville, Las- lower now than at any at this season of the

tains back of Placerville snow fall at the time of uring the first of the

mento Valley was visited of showers about the first much good to late sown

have begun to drive their mountains, the first drove ough Nevada City about

nt rainfall, which in the udes was a snow, will efit the irrigation people of Valley.

spector W. H. Cox reports ndition of sheep about Red ch better than it was at a ection.

of the California Fruit t Chico reports good out- uit with but little pear vidence.

of pumping water for irri- n the Sacramento river is be popular with farmers iver banks.

soon to be turned into the h, which will permit irriga- rge acreage of prune or- barley fields

company has petitioned for tion of a reclamation dis- clude overflowed land be- a and Bear rivers.

t full carload of cherries eaville was forwarded April s sent to Chicago. Last full car was on May 5th.

es of some of the largest hama county wool have al- made. It is thought that was above 15 cents per

s forest fire occurred in the Chico, which, at first, it ould do great damage, but a in of fire fighters soon sub-

ent engineers are making long the Sacramento and in rivers which it is thought to great advantage to those ies.

Central California

Merced is soon to have a new cannery established.

Peach moth has been discovered in orchards of Kern county.

Present indications are 4500 carloads of apples in the Pajaro valley.

The Turlock Journal still insists in making the statement "Turlock needs that cannery."

Lincoln Grange, San Jose, observed the 8th anniversary of its organization recently.

Some of the berry fields near Bakersfield are infested with the strawberry white grub.

Bakersfield and Kern county are discussing the feasability of consolidating the two cities.

Apple growers at Watsonville are now ready to contract to grow your photograph on Bellfleur apples.

Apricots in Santa Clara valley are now promising a fair crop notwithstanding the frost did some damage in lower sections.

The horticultural commission of Kings county is about to take vigorous action in regard to subduing the pest of Johnson grass.

The Kangaroo rat in vineyards about Santa Cruz are still doing much damage and the farmers are studying various plans of reducing the pest.

Apples and prunes in the Santa Clara valley have both dropped heavily within the last two weeks. This will result in material reduction of earlier estimates.

A fruit buyer working in the section of the Santa Clara valley predicts good prices for all shipments of green fruit this year, and fair return for all dried fruit.

The Horticultural Commissioners of Kern county report the presence of black scale for which the rhizobius has been introduced in the hope that it will succeed in eradicating it.

Greater interest is being created in dry farming in the central part of the State than ever before, and it is probable that another season will see great improvement along the line of soil culture.

The Turlock irrigation district is proving to be one of the greatest dairying sections of the State. The creamery at the present time is manufacturing about 750 pounds of butter daily.

The closest examination of the trees near Bakersfield, which were infested with the White Fly last fall, failed to find any living specimens. It is believed that the fumigation was effective in completely wiping out the pest.

Later estimates in the matter of the output of prunes in Santa Clara valley have caused the committee of the Grange of San Jose to report an exceedingly light crop, if not almost complete failure. White cherries will be a fair crop and black cherries very light.

The Bakersfield Echo reports that orange trees in that section on which cottony cushion scale have been discovered, have been dug and burned. This is a strange report, for the cottony cushion scale has such a complete exterminator in the Vedalia that there is never any occasion for destruction of trees.

Southern California

The farmers' institute is being held in San Dimas this week.

The cream condensary of Buena Park is now running overtime.

Rialto orange growers average for their March pool nearly $1.25 per box.

Nurserymen at El Centro have ordered one ton of eucalyptus seed from Australia.

Additional land is to be purchased to enlarge the Date Experimental Station in the Coachella valley.

Next year will see the largest planting of fruit trees, especialy oranges, yet made in the Imperial valley.

Nearly 25 miles of fire break have been constructed in the San Gabriel forest reserve during the past year.

Coachella on the Colorado desert has just shipped to the city of Los Angeles a consignment of rooted rose bushes.

A severe frost visited the fruit sections in the mountains back of Redlands on Saturday, May 2nd, and did much damage.

The recent effort to bind all the cantaloupe associations of the Imperial Valley into one single exchange seems to have failed.

Ventura apricot growers estimate that from the present outlook a much lighter production is indicated than hoped for earlier.

Perris, near Riverside, is having quite a development in the line of pumping plants installed in the form of artesian wells.

A bunch of 28 colonies of bees were stolen from a ranch near Crafton while the owner was enjoying a visit to the battleship fleet.

Forest rangers are now taking their positions in the reserve patrol and during the next six months will be almost constantly in the saddle.

The little town of Thermal is said to be planning to ship large quantities of hay produced by irrigation. Over $40,000 is anticipated as the year's income.

A large portion of land in District No. 8, Imperial Valley, is being reopened and farmed since the completion of the new flume across the river.

The first picking of melons has already been made in Brawley and before this paper is received we presume its first small express shipment will have begun.

Farmers are appealing to the Board of Supervisors of the Imperial valley for water rates on a more reasonable basis than they have been compelled to pay in the past.

An importation of Blastophaga has been made into the Imperial valley from the orchards of Geo. C. Roeding, of Fresno. This is the little insect which fertilizes the fig blossom.

The promise through all Southern California for a magnificent setting of fruit seems to be of the best. It is yet too early, however, to predict as to the orange crop.

The rain storm which passed over much of Southern California on the 2nd of May seems to have been more in the nature of a freak, some sections receiving a precipitation of nearly an inch, while others barely a trace.

The Coast

Utah has 21,397 stands of bees.

Montana ships 40,000,000 pounds of wool annually.

Portland dog fanciers are holding their ninth annual bench show.

Five thousand sheep are being sheared at Ephrata, Washington.

Iron county, Utah, is having a material advancement of the dry farming plan.

Peach trees near Ashland, Oregon, are so heavily loaded that thinning is being done.

The Klackamas county fair association has finally secured fair grounds near Oregon City.

Asparagus and strawberries have been seriously injured by heavy frosts at Eugene, Oregon.

Hemet boasts over $100,000 worth of buildings erected in the town and on the tract since the first of the year.

The State Bee Keepers' Association at Utah recently held a very successful annual convention at Salt Lake City.

Favorable weather conditions in southeastern Oregon during the winter and early spring makes its crop of winter wheat promise a vast yield.

Wheat owners at Volmer, Idaho. have completed their shipments of wheat for the last season, sending out 250 cars within the last 35 days.

The fruit crop at Coeur d'Alene, Idaho, promises to be immense. There is no injury from frost and it is now estimated 200,000 boxes will be the output.

Fruit growers at Brigham, Utah, have formed a marketing association, and have sent an agent East to look after disposing of the fruits of the members.

Two heavy frosts visited the fruit growing sections of Grant's Pass, Oregon, doing great damage. The freeze was so hard that water was frozen hard in hydrants.

Wheat men at Wenatchee, Washington, have formed a pool to dispose of their wheat and materially forced up the price from that which was locally offered before the organization.

A shire colt at Springfield, Oregon, whose mother died immediately after foaling, has been adopted by a Durham cow, and she nurses and guards the colt as if it were her own calf.

Oregon hops are rapidly passing out of the growers' hand and in about two months at the present rate of shipment the State will be cleaned up. There are only about 13,000 bales left in the State.

Fruit growers in Klackamas county, Oregon, have neglected spraying under the directions of the fruit commissioner and he announces that trees will be destroyed unless they are at once disinfected.

A recent meeting of farmers at Sandy, Oregon, took the first steps looking toward the organization of a fruit growers' association for that territory. Their slogan will be "the best apple in the world."

Storms recently damaged much wheat in southern Douglas county, Washington, by blowing sand and covering much of the newly sown grain. This storm is said to be the worst in over 20 years.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom. 83 Market St.

The Jubilee Incubator

Has proven a winner. Ask the colonists who are using them.

Coulson's Special Chick Food and Egg Food
always in stock.

Poultry and Stock Foods. Sole agents for International Stock and Poultry Foods, Kow Kure, Coulson's Egg Food, Darling's Beef Scraps, Chamberlain's Chick Food.

Seeds, Plants and Bulbs
Write for our 1908 Catalogue

GERMAIN SEED COMPANY
326-330 S. Main St. Los Angeles, Cal.

Eggs for Hatching

From Carefully selected purebred stock of

White Minorcas **White Leghorns**
Buff Orpingtons **Aylesbury Ducks**

White Minorca Chicks for Sale

APPLY TO

Coulson Poultry & Stock Food Co.
Petaluma, Cal.

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Is the very best location for YOU if you are in the poultry business. Because you can make MORE MONEY out of poultry there than you can anywhere else in Southern California. Apply for particulars to

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WHITE AND BUFF WYANDOTTES
And Golden Sebright Bantams, prize winners
Stock and Eggs in season
M. E. Dillingham Box 67, San Gabriel, Cal.

White Wyandottes Exclusively
Good, White, Typical Birds. Stock and Eggs For Sale.
W. A. SEYMOUR
470 No. Beaudry Ave. Los Angeles Cal

Profit in the Poultry Y

We solicit short articles of a practical nature from the fancier a
breeder, giving their experience with poultry. All inquiries pertain
management, disease and its prevention will be answered through these

THAT FOOL ROOSTER CROWS AT THREE.

That fool rooster is a-crowin',
When I'm sleepiu' jist the best;
Wish there was some way o' showin'
Him t' shet his head an' rest;
There's no need o' him a-yelpin';
Three o'clock's too awful soon!
Wish there was some way o' foolin'
Him t' waken nearer noon.

Jist as I begin a sleepin'
Like the fast mail down the grade,
That fool rooster makes a racket,
Jist the worst that's ever made;
Spoils my dreams, an' makes me cranky,
All the livelong day t' come;
Gittin' waked so awful airly
Makes me feel so awful bum.

There it goes again! I bet you
We will have him in the soup;
Wring his neck? well, now I reckon
I will show him how to whoop!

* * *

That you callin' me, Matilda?
Thought it was that rooster crowed;
"Eight o'clock?"—why don't you call me?
I'd got up, if I had knowed.

By Rev. Gilbert Lard Wilson, Ph. B.

PACKING EGGS.

SHIPPING eggs for hatching and what constitutes a good hatch, are subjects about which we have a great deal of discussion.

In the first place, in shipping eggs for hatching we should give great care in packing them. We all know that express companies either don't or cannot handle them as carefully as they should be. Therefore, it is the duty of every one shipping eggs for hatching to properly pack them that they may reach buyer in good condition. Every oue buying eggs is eager for a good hatch and gives them (as a rule) the best possible care. They pay for the eggs and we should be particular in what is sent.

Only recently we were talking with a man who said that he "had been jobbed;" that his eggs were not properly packed and did not come through in good order, that several were broken and that he only got six chicks out of 15 and he thought "in buying eggs and paying a good price for them that he was entitled to more than six chicks out of a setting."

How Many Chicks.

Now here is room for a discussion and we would like to hear from some of the fanciers who are shippiug eggs for hatching and those buying as to what coustitutes a good hatch and what we should expect from a sitting of eggs. We have bought a good many eggs at different times, and have also sold many for hatching, and never complained as to the hatch we got, although some were good while others were bad. We always figured that if we hatched six chicks that we had done well; of course, we would rather hatch 15 from 15 eggs, but taking everything into consideration we thought, and still think, that six chicks may be considered a reasonable hatch and one that ought to satisfy us. For we should consider that when eggs are shipped that the constant jar of the train or buggy has a tendency to weaken the membrane which holds the egg to shell, thus allowing the white and yolk to mix, although this is so slight we cannot notice it. Yet if the germ for any reason be weak it is sufficient to keep the egg fro
Therefore, when we recei
hatching we should let
for at least 24 hours bef
them under a hen or in a
By doing this it will give
chance to regain the or
tion.

Most everyone that sell
setting knows that six go
chicks are worth more tha
of a setting of eggs. Yet
glad when a customer re
more chicks from a settin

Packing Eggs for Shipping

In packing eggs for sh
use reasonable care there
no trouble. If I use t
boxes made for the pur
wrap the egg in paper
on the small end and e
dust or oats around it
from shaking, and to
as much as possible.

If I use a basket or
eggs I wrap each egg in
in excelsior. After this
cover the bottom and si
with excelsior, then pack
well and cover with a l
sior thick enough to
from anything that migh
them when in transit; o
a cloth to keep excelsior

I have packed many eg
and never had complaint
eggs.

We should take care
trade and do our part t
good batch. Always sh
fresh and discarding all
rough shelled eggs.

AROUND THE YA

Overheatiug is injurio

* * *

Provide shade for the

* * *

When chicks form ne
end of the egg they are
the shell.

* * *

In holding eggs for ha
allow them in a temper
than 60 degrees.

* * *

In placing eggs in
see that the large en
higher than the small

* * *

Especially for better
the temperature, the ba
incubator should be test

* * *

Overheating destroys th
cles of the blood. The
heat, the whiter the bloo

* * *

In starting an incubator,
its capacity with eggs,
be poor results when
filled.

* * *

Turning the eggs preve
vessels growing fast to the
also prevents contents of
from settling.

* * *

When eggs are kept in a ve
place, the germ is apt to st
they will quickly spoil when
the incubator.

* * *

For a healthy growth of c
warm, dry and sunny room is
No amount of heat will con
for a lack of sunshine.

LICE
IFESTED HENS

ne thing more than any other
:ks the hopes of thousands of
ltry raisers—*lice*. A louse-in-
d hen is a tax—a drain on re-
ces—a bit of property that rep-
nts *loss*. There's nothing in
but trouble and worriment—
t keep one. It isn't necessary
e rid of hens because of lice
ever. Simply dust hens, roosts,
s and *hidden cracks* with

Instant
ouse Killer

destroys them completely. Instant
e Killer was formulated by Dr. Hess
. D V.S.), and kills lice on horses,
. ticks on sheep, cucumber, squash,
age worms and melon pests as well
se slugs. It is also a reliable disin-
t and deodorizer. See that the word
ant' appears on the can.

D ON A WRITTEN GUARANTEE
In Shaker-top Cans
can 35c 3-lb. can 85c
your dealer cannot supply you,
your order to us
Manufactured by
. HESS & CLARK, Ashland, Ohio.
TALUMA INCUBATOR CO., PETALUMA, CAL.
PACIFIC COAST DISTRIBUTERS

ldwin's *White Leghorns*
prizes San Jose '06, and State Fair '07
hree 1sts and special, San Jose, '07.
sts, three 2nds and $50 Cup best display
Petaluma '07.
l for free '08 Catalogue and price list.
Frank E. Baldwin
shington Ave. - San Jose, Cal.

HOMERS
Prolific Breeders
Winner of 1st pen at Breeders' Show
Satisfaction Guaranteed
C. E. Bunker
San Jacinto, Cal.

st Side Poultry Yards
Barred Rock and Buff Orphington Eggs
hatched to order. We have taken the ut-
re in procuring pure stock, also selected
'Hogan System". Visitors and corres-
ce solicited.
J. Look *No. 16 Hancock St. E. San Jose, Cal.*

WINSLOW'S
REDS The bird for the Farmer and Fancier.
Write for 1908 Mating list.
Red Feather Poultry Yards
Dr. C. E. Winslow, Monrovia, Cal. Send stamp for Red Standard.

ST SAN GABRIEL EGG RANCH
hite Leghorn and Barred Rock Eggs for
g, $1 per 13, $5 per 100. Won 12 ribbons
Breeders Show on White Leghorns. Prize
, $2 per 13. All hens in our breeding pens
cted, 2-years-old, and are great egg pro-
son & Johnson, San Gabriel, Cal.
riel Car to Masonic Home then 2 blocks South

FOR SALE
oice White Leghorn Hens full
one year old and in fine condition,
claring dividends every day now.
A. P. HENNING
ox 225 Cottonwood, Shasta Co., Cal.

FOR SALE
dozen well-bred, Great Layers,
Minorca Hens. One-year-old.
per dozen. Five males $2.50 each.
S. W. Morgan
Sunnyside, Cal.

ry new thought takes a year
e age of the brain.

Eggs should be as near a size as possible. Large and small ones placed in the machine at the same time will not give good results.

* * *

An authority says that the embryo chick may not be killed by overheating, but the vitality of the blood is so impaired that the chicks recover very slowly, if at all.

* * *

When an egg containing a live germ is surrounded by a lot of eggs containing dead ones, it is in no condition to get the proper heat, and will have to be a very vigorous germ if it hatches out at all.

* * *

Don't forget in starting the incubator to clean out the heat or flue pipe into which the lamp chimney extends, to put in a brand new wick, to clean all the parts of the lamp thoroughly, having the burners as near as possible as bright as when they were new. Use good sewing machine oil on all bearing parts of the machine, after first carefully removing the dust and dirst.

* * *

I have some White Rock chickens about one month old. They stand around and mope for a few days and die. They keep opening their mouths as if gasping for breath and it looks frothy. About a week ago I found they had head lice and I greased their heads once with lard and coal oil mixed, and powdered their bodies 3 times and now they are free from lice. I feed them chick feed ready mixed from the store. I add a little rolled oats and lettuce at noon and clean water three times a day. Their yard is 6x15 feet for 30 chicks. I spade it up every 3 days and clean out their house every day. I have always had the best of luck with my chickens.—Mrs. J. C., Riverside.

Your birds have a form of roup and they should be treated for the same. I would recommend that you spray their throats well with some good roup medicine according to directions. This disease was perhaps caused by the birds being in weak condition through being troubled with lice. We would also give them a good tonic to tone them up. So long as you allow your chicks to be troubled with lice you are apt to have first one trouble and then another with them. We would clean up the coop and runs and give them a good dusting every week or ten days. This, with plenty of nutritious food, and we think you will have no further trouble.

* * *

White Diarrhea.

I wish to tell you what I have done with my little chicks. White diarrhea in young chicks is what is the trouble and I have read and tried everything possible, but do not find the root of the trouble. I cannot think it is the eggs as my breeding birds have never been ailing in any way. I set the incubators and the hens from the same pens and the hens will hatch 13 out of 14 eggs and raise every chick barring accidents, while the incubator chicks will many of them go with that diarrhea. They are fed the same and have just the same kind of ground to run on. Have Petalumas and Cyphers incubators. Now as to brooder, have hot water and hot air; also have tried putting some of the incubator chicks under hens after they were hatched but the trouble still showed up. I see one person thinks the change in temperature in the incubator from the egg tray to the nursery is one trouble and I have been testing that lately in my Cypher, but the Petaluma is a small one and has no nursery so I do not know what to think. I never breed from a fowl that has ever been sick in any way. If we have a sick bird, and we seldom do, I am glad to say it is at once isolated and either cured or killed very quickly as I do not believe in having them around to spread trou-

Use
Coulson's
Special Dry
Chick Food
and Insure Success

Two-Weeks-Old Chicks fed on
Coulson's Special Dry Chick Food

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Coulson Poultry and Stock Food Company
Petaluma, Cal.
Send for our Free Book, "Poultry Feeding for Profit"
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Distributing Agents for Southern California

Ranch Mirasol (Lincoln Avenue Poultry Yards)
S. C. White Leghorns---Mitchell Strain
Eggs for Hatching
Our birds are not the culls and accidents of the fancy breeder, but have been bred for generations for a definite utility type to lay both quality and quantity. They are selected by the Hogan system and mated by Standard requirements. Ready for delivery January 1st. Order books now open.
Carl C. Curtis, Owner, Lincoln Avenue and Ventura St. Pasadena, Cal.
ALTADENA CARS

White Wyandottes Exclusively
Our strain have won in strong competition on the Pacific Coast
Day old Chicks, Incubator lots our Specialty, $15 per 100
Booking must be made in advance. *Stock and Eggs For Sale.* Send for our new Catalogue
GEORGE W GRACE & SON. RURAL 21 CAPITOL AVE. BOX 98, SAN JOSE, CAL.

Starbuck's Barred Plymouth Rocks
We trap nest our hens. Why set from poor layers? Bird laying qualities are inherited the same as any other. This year we have discarded all old matings and have gone to the next generation. Cocks have 9 generations of 200 egg mothers. Hens all from 200 egg mothers and from cock with 6 generations of 200 egg mothers, and are laying fine. We have divided into pens according to the way they are showing up in six months laying. $2.50 for 13 eggs from first pen. $1.00 from 2nd. until they have time to make longer records. (Except from our one best, not for sale. We claim the world's Barred Rock, 6 months laying record for this one.) Do you wish to hear about our prize winning Buff Orpingtons and Silver Wyandottes? We have something to crow about. No Sunday sales or visitors. *Wm. Starbuck & Son. Fullerton*

BLOEM & VANDERGOOT
Black and White Poultry Yards
Successors to Ed. M. Burnell
Columbian Wyandottes exclusively. A few choice trios for sale. Eggs per setting $3.00 and $5.00. Eggs per 100, $15 and $20. Stock a matter of correspondence. LOCK BOX 51, GLENDORA, CAL.

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Mr. C. H. Wagner, Gen. Mgr. Russ Lumber Co., San Diego, Cal., U. S. A., writes as follows: "A fire occured during the night of August 17th and was not discovered until morning. Blaze had died out as the roofing would not ignite. This roof is covered with your Malthoid Roofing. We consider that the resistance of the Malthoid Roofing stopped the blaze and saved the plant."

The Paraffine Paint Co. San Francisco California
E. G. Judah, General Representative, Security Bldg, Los Angeles

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260-Egg Size, $20 130-Egg Size, $15
Send for free trial offer
E. E. McCLANAHAN
711 So. Main, Los Angeles

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Investigate these machines before you buy. Catalog and descriptive matter free, fine poultry lectures and other valuable poultry advice.

Write Today

West Coast Chick Feed

Don't be induced to take others "just as good." They cost less to make and dealers make more profit on them. You can't afford to feed the little ones anything but pure, wholesome feed, properly balanced to keep them healthy and make them grow. "West Coast" is just this and all pure feed to be fed dry; no filler, no waste, hence really the cheapest. The biggest seller because the best made. For sale by many dealers; if not by yours send direct to us.

WEST COAST MILL
818 San Fernando St. (Through to Alameda) **Los Angeles, Cal.**

Little Chicks should be fed on **Excelsior Chick Food**

prepared from clean, sound grains, seeds, beef scraps and charcoal in proportions to make a well balanced ration and produce strong, healthy chicks and keep them continually growing. For sale by all dealers and grocers. Take no other.

Excelsior Cereal Milling Company
242 Central Ave., Los Angeles

Trap-Nested White Wyandottes

That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen, contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribbons, all at Los Angeles County Poultry Association Show, December 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah. Hens and Pullets, $15 and $20 per dozen.
MISSION VIEW POULTRY RANCH, MRS. C. D. HUBBARD, SAN FERNANDO, CAL.

Black Minorcas
Exclusively
"Birds That Lay and Win"

Winnings at Los Angeles, 1908: Cocks, 1, 2, 4, 5; Cockerels, 1, 2, 4, 5: Hens, 1, 2, 3, 5; Pullets, 1, 2. 3, 4, 5. Pens, 1, 2; Cup for highest scoring Minorca male in show. Stock and eggs for sale. Catalogue free.
H.A. Wheeler, Box 123, Lordsburg

REMOVED SPAVIN—THINKS IT THE BEST BLISTER.

I used Gombault's Caustic Balsam for bone spavin with the best results. The spavin is gone and the mare is sound. I think it is the best blister in the world for bunches of any kind.—H. E. LILLY, Wayne, Kans.

ble, and if cured never go in the breeding pen.

The heavy breed of chick seem to have the most trouble with diarrhea, as I have put Leghorn eggs in incubators so as to test them with the same treatment and they would be troubled very little.—Mrs. E. A. M., Pasadena.

It is hard to tell just where the trouble is, but it is evident that it is in your machine as the same eggs under hens are all right. It may be in the heat, or your machine may need a thorough cleaning. We would disinfect the incubator. Prof. W. B. Graham, poultry expert for the Ontario government at the Guelph Agricultural College, reports spraying incubators with good success. He used genoleum and sprayed all of the interior of the machine including egg tray. The machine was first heated up ready to start, then was sprayed with a ten per cent genoleum.

Again, the trouble may be caused by getting your machine too hot during the last few days of hatch. If heat gets too high and the chicks are brought out too soon it doesn't give them time to absorb the yolk as much as they should.

After your chicks are hatched do not be in a hurry to get them out of incubator, and do not feed them for at least 36 hours after hatched

* * *

Diphtheritic Roup.

I have a yard of chickens that is seriously afflicted with a disease that I can not seem to check. It is unlike anything I ever had before with nearly 10 years' varied experience. The disease begins with a sort of squawking noise as if there was something in the throat. Part of the chickens seem to get choked up like anyone with the asthma, wheezing like. Their throats seem to be swollen more or less. No canker, but have had two that one eye closed, so I took it for one form of roup, which I have been treating them for with a roup cure, but seems to have no effect upon them. They eat and seem to feel pretty well until they are so far along that they begin to wheeze.—Subscriber, Santa Cruz.

In regard to your communication we wish to say that your chicks have diphtheritic roup, as the trouble seems to be in their throat, and you should treat them in the throat. This is the reason you have had no success with the roup cure, as we imagine you treated them in the head. You should get a sprayer and spray their throats well. A mixture of eucalyptus oil, or germazone, would be good.

It might be well for you to make a close inspection of the roosting quarters of these chicks. They are evidently roosting in a draught. Either that, or they are crowding, which overheats them. If this is the case, when the get hot they work their way to the outside and then get cold, which causes them to take cold, which has run into the disease you speak of. But we believe by removing the cause and spraying their throats well with a good medicine and giving them good food to tone them up, that you can get them through all right.

CORONADO TENT CITY OPEN.

To accomodate the crowds during the recent visit of the battleships to San Diego, Manager Hammond, of Coronado Tent City, threw the resort open some weeks before the usual time. It has been decided to keep the resort open and from now until June 10th, a reduction of one-third will be made in rates.

The formal opening of the regular season will occur on June 17th.

A new booklet has been issued, giving full information about rates, accomodations, routes, etc. It also describes the new attractions, chief of which is the new pleasure pier running 700 feet into the ocean and affording fine facilities for fishermen, as well as boats.

Keep the Wheels Turning

One of the little economies that help toward a substantial saving is the use of a good axle grease. A grease without proper "body" runs off. One too heavy stiffens on the axle and adds to the pull.

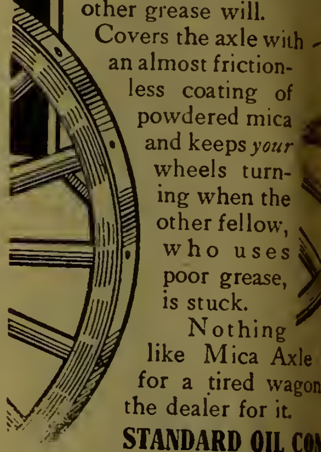
MICA AXLE GREASE

is *right*—won't run, won't stiffen, won't wear out as soon as other grease will.

Covers the axle with an almost frictionless coating of powdered mica and keeps *your* wheels turning when the other fellow, who uses poor grease, is stuck.

Nothing like Mica Axle
for a tired wagon
the dealer for it.

STANDARD OIL COMP
(Incorporated)



Imported Aylesbury Duck

Winners at Crystal Palace
leading shows in England.
Also at the State Fair, San
and Oakland, 1906.
Also State Fair and San Jose.
Stock for sale and Eggs in se

Vincent G. Huntley
Petaluma,
Also Breeder of Buff and Black O
and Barred Plymouth Rocks.

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All the leading varieties of
Pure bred White Leghorns a spe

L. W. CLARK
615 Main Street, Petaluma, Cal

Hague Domestic Oil Burner

Showing the Method of Attaching to Cook Stove

A device for using low grade distill
Saves 40 per cent of cost of coal or
gas—let us prove it. Write for circu

Hague Domestic Oil Burner C
214 Winston St. Los Angeles,

The first grange in Crook cou
Oregon, was recently organized
Laidlaw.

e Stock and Dairy

IORSE TALKS.

IS is the season of colts
y be well to call attention
owner of one or two
e necessity of having a
for the colt to be dropped
a box stall have it well dis-
l whitewashed. If it is an
al have all litter removed
and fresh sand on the
plenty of any good, cheap
sprayed around. The
foals in an alfalfa field is
to lose her colt with
or navel disease. This
scientifically named om-
itis, it is caused by a bac-
ng the cord at the navel
orn colts. This bacteria
ng breeding place in stable
cularly when soiled by
ted at foaling time. As a
the cord should be tied
twist silk and cut a few
. The remaining portion
well wetted with a 1-500
f corrosive sublimate. If
in the stable, wet it night
ng until the cord has dried
d away.

* * *

cation the following comes
rd B. Hall's pen. It is an
contribution from a care-
r. "My filly foal of 1907—
all the futurities for 1910
lays old, could do nothing
had the smith come here
hey laid the little thing
grass and he whittled with
t her feet, as I directed,
esult, that when she stood
ved she trotted. She has
l a step since. She is now
s old; I have her feet
l 'balanced' every four
has now perfect feet."

he Horse.

ory seems reasonable when
ent of the horse is con-
ome one has expressed it
he said that a horse was
owerful living lever known.
to pull is in the hind quar-
rip on the ground with the
the purchase that holds
ce, while the weight of his
holds him down while the
uscle of the back and hips
ds forward. Now the fore-
be lifted promptly out of
the hind feet will cut into
he forefeet are not true
are slow in moving or else
the earth regularly, the
swing himself sideways,
nove them out of the way
scramble into pacing.
ses are not desirable except
horses for gay young fel-
y throw dust in the sum-
ud in the winter. A sandy
ad fatigues them quickly
muddy roads. The trot is
irable gait for a horse for
s, and readier sale can be
a trotter than for a pacer.

* * *

ne Colt.

e colt can hardly be halter
young. Lead him by the
handle him carefully but
e colt never forgets this
One of last year's fillies
in the pasture; without
g a halter on her, one man
ng her around the neck
other picked up her hind leg and rasped the broken edges. This filly was not frightened by handling like a colt that had never worn a halter, but was helped in her confidence in man as a friend that was able to do things she could not do for herself. When the little colt is first haltered tie him up near his mother for half an hour at a time. Let him wear a light, little halter and handle him by it; rub his back and legs up and down with the hand; fondle and pet him but never tease or pinch him. Nipping and kicking at you may be cunning in a little colt, but like many of the cute things in human babies, it must be promptly surpressed or it will become a vicious trick when they grow older. Then drastic treatment will be needed to make them good.

Training for all Purposes.

At two years old the colt should be bitted and then driven with a good horse. This is continued long enough to have him obedient, say a daily drive of an hour. The feet are not shod but kept rasped to toughen the edges. The horse used with the colts should be a fast walker; these daily lessons should be all walked as fast as possible, never mind trotting or speeding the colt. Walking him fast and keep him walking until he learns to move with head up a good four and half to five miles an hour on the road. Walking is all in the early education and can be taught easily if made the first road lessons. After a month of this work turn the colts out to grow until three to three and half years of age.

The Colt at Work.

As soon as the real work of these colts begin they are comfortably fitted to harness and collars. Now hitch them to the plows and cultivators; teach them to pull resolutely to the end of the rows. There is nothing like plowing to harden a young horse's muscles. The cultivator and harrow add a further useful lesson in picking up the feet and not blundering over trifling things like clods. If the horse stumbles in the soft ground his knees are not marred by scars. This training, not pushing to exhaustion, of the young colt makes him a good traveler, as he does not tire out at the end of a mile or two. The long plow rows give him wind and strength. The livery men are ready to buy at $200 each our less choice horses at seven years old, because they can give their patron a horse that can go miles without fagging out. They stand the road every day in the week as they have had the muscles developed to do this work easily.

Sulky Work.

Take the horse broken for speed in a sulky he is meant for different work and receives his training, yet if we farmers wish a horse to work, a man thinks he must break our horses in the same way. At present seven three-year-olds are being put to work here on the ranch. They are purchased animals and are being worked for the first time. The large farm wagon is being used for their "sulky." Take the ordinary horse broken in a light cart and put into carriage work at once, now when he comes to a stretch of deep mud or heavy sand he is all in. Take a driving horse and try him by driving down the rows of the orchard; if he will pull the buggy along then buy him, but do not fail to try him in this way. A well broken

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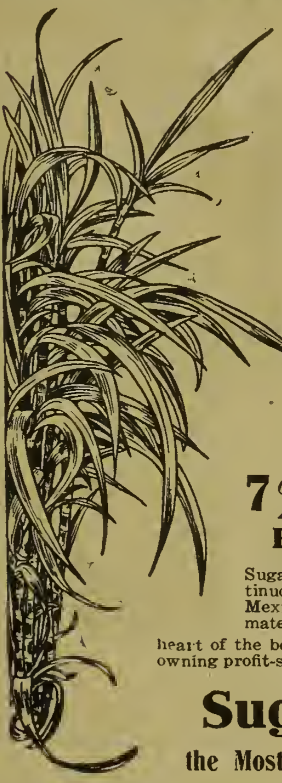

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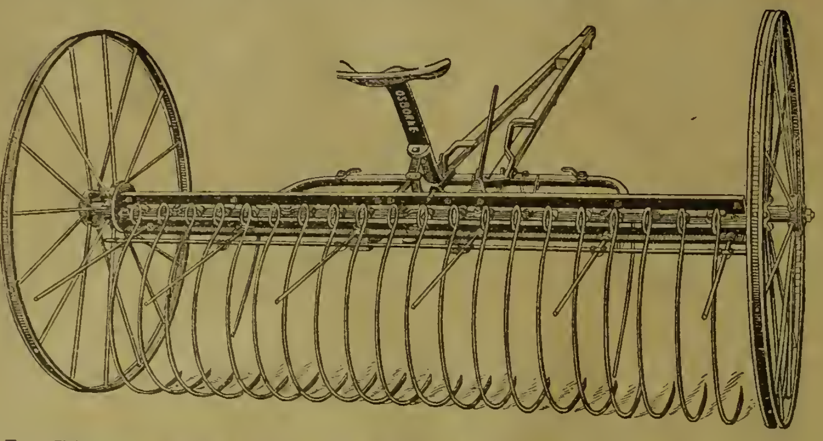

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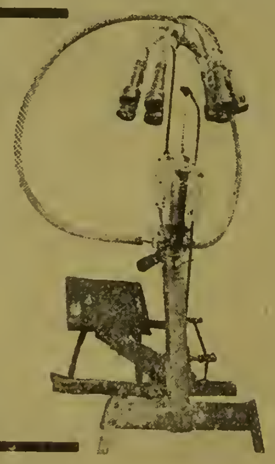

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carriage animal should pull, if necessary, until the traces break rather than balk. Willingness in a horse is of more value to the ordinary driver than a pedigree.—M. E. Sherman.

BREEDS OF HOGS.

What is the best breed of hogs? We always answer, the breed that you like best. A good individual, well bred and from a prolific strain of any popular breed of hogs will make money if handled right.

The Poland-China is a nearly perfect machine for converting feed into pork. It is an easy keeper, a quick fattener, and when handled properly is ready for the market whenever the price is right at any time after it is five months old.

The chief objection to the Poland-China is that many strains are not prolific, the sows having only one to four pigs at a litter. This has been largely caused by over-feeding with corn in the corn belt.

Where the sows have been properly fed on nitrogenous feeds and prolific ones only kept for breeding the Poland-China is as prolific as any breed.

The Berkshire is a prolific breed, adapted to any condition favorable for hog raising. It will fatten at almost any age, and by feeding can be developed either into a lard or a bacon hog. It is an active hog, a good grazier and will take care of itself in the feed lot with cattle. It takes a better fence to hold the Berkshire than it does some of the lazier breeds.

The Duroc-Jersey as now bred differs but little from the Poland-China except that it is red in color and is more prolific. Records collected from thousands of sows of each breed by the U. S. Department of Agriculture show that the Duroc-Jersey sow averages a larger litter than the Poland-China sow. The hogs of this breed mature quickly, are good feeders and prolific.

The Tamworth is a bacon hog with long, deep, thin body, long nose and long legs. It looks like a "razor back," but will put on as much weight in a given time from an equal amount of feed as a hog of any of the other three breeds. The meat has a large proportion of lean and is well marbled. The Tamworth is a profitable hog if pushed from birth until marketed, but if once stunted it will never recover and make a profitable feeder. —H. M. Cottrell, Superintendent Farmers' Institutes, Colorado.

OVERFEEDING CAUSES INDIGESTION.

One of the most insidious foes to good health in hogs is constipation. It is the begining point of a great many other serious ailments that affect hogs. It is easier to prevent disease than it is to cure it. By preventing disease the hog can gain continuously, but after disease attacks the hog it loses and the profit in hog raising is lost with it. It is not the feed which is eaten, but it is that which is digested properly and assimilated by the animal that brings about good results. The hog that is clogged up soon becomes surfeited with feed and loses his appetite or desire for eating. To make a success of feeding, hogs must have appetite and anxiety to eat. Therefore, it is vital that they be kept in a condition for demanding feed. But do not overfeed; it is better that they should be a little underfed than over-supplied with feed. Each meal given should always be eaten up clean, and the trough

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Berkshires--Short
My Berkshires took every blue ri
and Silver Medal in the female
pigs at low prices. G. A. Murphy, P

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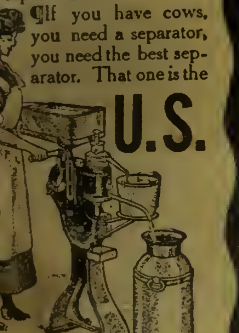

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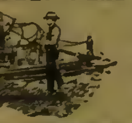

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nia Agent Pomona, California

D CHINAS FOR SALE
oughbred Poland Chinas of both them weigh 150 pounds. W. R. Oak Park, Sac. Co., Cal. Roosevelt Ave

should be thoroughly cleansed after feeding. Never throw fresh feed into the trough if it contains any of the old or sour feed in it. In this way you will keep the appetite toned up and a good appetite causes a good flow of salvia and naturally assists good indigestion. A voracious appetite which is unnatural accompanies indigestion. The hog remains hungry after he has filed up on all that he can eat, and is worse off than if he had not eaten at all, as he has only added to the burden of organs which are overworked already.

CHARCOAL FOR HOGS.

A swine grower asks if it will be necessary to buy coal or charcoal if wood ashes and salt are fed pigs.

Charcoal does two things: Supplies some mineral matter and keeps the digestive system clean and toned up. If a sufficient amount of hardwood ashes be fed to pigs there will be no need of buying charcoal. Some people buy the bituminous coal and feed it, but it is just as well to buy fine charcoal, which can be purchased very cheaply. The very cheapest way to get charcoal is to dig a pit, fill it with corn cobs, after starting a fire, and then cover it over with sheet iron and earth. Leave for a time, when it may be uncovered, the fire put out and a nice lot of charcoal will be found. This will answer just as well as that which is bought.

Salt should be supplied hogs always, and particularly if clover hay, barley, corn or bran are fed, since these feeds contain more or less elements such as potassium, which drains the system of chlorine. Chlorine is absolutely necessary in the production of the hydrochloric acid used in digestion. Hence to make digestion normal, salt, which is made up of sodium and chlorine, is necessary. It is best to supply salt so that hogs may have it at will, either in a salt box or with the charcoal or ashes.

Ashes from hardwood are valuable to hogs in supplying an alkaline lye, which is detrimental to worms or other parasites in the digestive system.

It will be seen then that the ashes, if they contain some charcoal and the pure ash and salt, will answer the need of your pigs without further purchase of charcoal or coal.—Farm, Stock and Home.

HOG NOTES.

Take care also to have the bedding dry. Nothing is worse than dampness for hogs.

Keep awake to your possibilities, and you will be pleased with hog growing as a business.

Be sure to give the hogs a chance to exercise every day. This keeps the digestive apparatus working well, and keeps the hogs healthy.

If you have any young pigs, keep them constantly on the gain, but don't stuff them too much. If overcrowded at the beginning they don't do so well in the end.

Get acquainted with your hogs these days. See which ones are the easy keepers, and which ones "eat their heads off" and then don't amount to anything.

Remember that an ounce of prevention is always worth a pound of cure, and try to keep all the conditions ideal for your hogs. Keep your eyes open so that you'll notice the first indication or symptom of disease. Then seek to overcome the cause before the case becomes aggravated.

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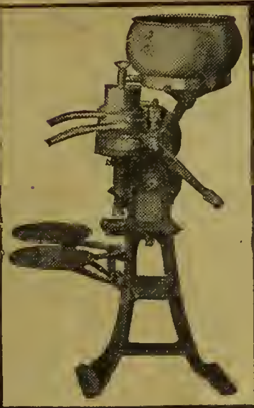

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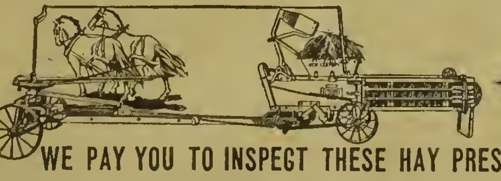

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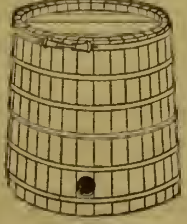

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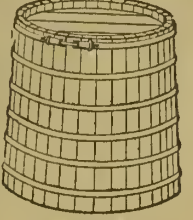

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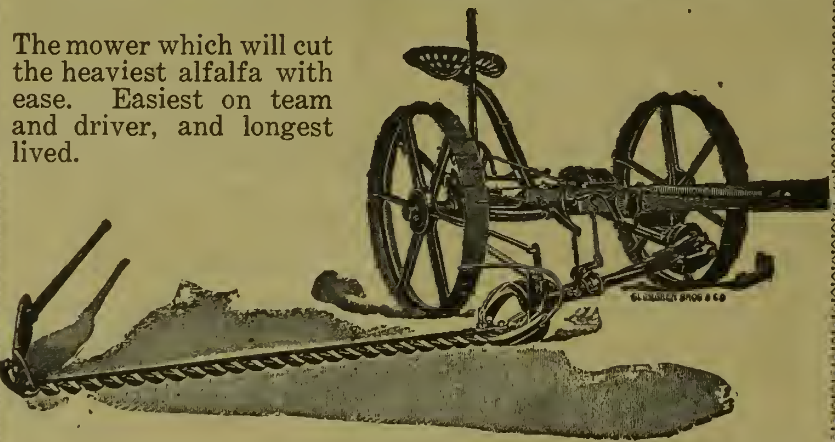

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Queries and Repl

Questions to be answered in this department should be received at thi one week before reply is expected. Write plainly on one side of the pa sign full name and address. Unsigned communications receive no atte Ed.

Planting Peach Trees.

Is it injurious, or does it hinder the growth of young peach trees to have the budded stump under the ground? Or should it be above the soil at all times?—F. E. P., Porterville.

As a rule, deciduous trees are set so as to bring the bud under the surface of the ground. With citrus trees this is considered objectionable in view of the latest information on gum disease, but we have never heard of ill results to the deciduous tree.

Loquats and Blue Gums.

Please give information regarding growing of loquats and blue gums.. That is, raising them from the seed.—R. M. P., Riverside.

The growing of blue gums is very simple, usually being propagated by planting seed in August which brings the trees in good size for the following spring field planting. The ground should be partially protected from direct rays of the sun and seed kept moist and given usual care for such seed. They may be potted or put in cans later so as to establish the roots ready for the planting in April or May.

The loquats may be reproduced from the seed, but the seedling is not liable to have all the good qualities of the parent. On this account the budding or grafting is necessary in order to be sure of desirable variety. The Advance, Premier or Victor are any of them good varieties.

White Rabbits.

A pair of white rabbits have given me two litters which they have failed to raise. The last time I had them separated putting the male in the run next to the female. After the little ones were a few days old she ate them. She had plenty of green food and rolled barley.—New Subscriber, Chino.

We have presented this matter to people who have had experience with Belgian hares, but never like this. The male should not have been left with the female at first, and we think it would be better if he were removed entirely from the female as soon as nesting is indicated. Besides, it is well for the nest to be protected from observation where the mother will feel confident the little ones will not be disturbed. If any subscribers of the Cultivator can add any other points it will be appreciated.

Mildew on Roses.

I send sample of sprigs
bush. Examine closely
and you will find small fly
ple of same insect in tinfo
G., Lemoore.

The only trouble we ca
the leaves mailed is that the
ly affected with mildew
corrected by powdering with
or rather, powdering with su
prevent spread of the di
could find no insect on the
the specimen in the fo'l
condition to identify. It
aphis or plant louse is the

Mildew.

How may I treat rose
mildew?—Subscriber, V

Some prefer to spray
mixture. Many use ordi
sulphur scattering about
and even over the leave
dew is on. The benefit,
not derived until the sun
sulphur into a gas which
the fungus growth. This
the mildew which is no
bushes, but will prevent it

Inflammed Teat.

I have a two-year-old
her first calf. One forwa
comes inflamed and be
ings obstructed by har
which gradually work o
milking progresses. All
teats and the udder seem
healthy. She is quite val
you can give us any idea
meager description, you w
oblige.—W. E. G., Anahe

After each milking inje
drachm of the following so
hold of end of teat and
wards:

Adrenalin, one ounce;
solution, seven ounces; m
as directed.

Holds Up Milk.

Will you kindly tell me
matter with my cows; th
down their milk one milki
next the bag is caked ve
the discharge is stringy.
be well and eat and d
in a few days the bag
dry up and they seem
in the joints.—Mrs. B. F

Are you sure these co
fever? Otherwise, the tr
from not milking them
may be frightened or ma
by using a dog or horse to
in. If they are not letting
down and have no fever it
ness. Seek this cause and
ble will end. Often a poor
pulls the milk out instead
come lightly by a pulsating
hurts the cows and they
by the pain caused by the
of the milk. I know if I we
corral one milking time I s
the cause, and you can if
think and observe a little.

Ascalano Olives.

Will anyone having had e
in growing the Ascalano
Southern California, please
tivator readers the benefit of
perience, especially in regar
larity of bearing and produ
—"Ascalano," Upland.

Bitter Milk—Corns.

We have a cow that appe

AMERICAN SURFACE IRRIGATION PIPE

SAVES WATER, GRADING AND TIME

The **only** way to **Irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties. We make Riveted Water Pipe** in lengths of **ten feet** from **single sheets.** Let us **prove** to you that we make **Pipe** and **Tanks right.** WRITE FOR CATALOGUE.

AMERICAN STEEL PIPE & TANK COMPANY
FORMERLY TALLERDAY MANUFACTURING COMPANY
636-7 Pacific Electric Building **Los Angeles, Cal.**

When Writing Adverisers Please Say That You Saw Their Advertisement in the California Cultivator

ll and healthy yet when
nds two days it does not
cream froths and looks
nd the buttermilk is bit-
n the milk does thicken
cheese it looks very dark
tter taste. I keep the milk
clean and cool cellar.
me the cause of the trou-
a cure?
a fine young horse which
its feet, which causes it
Can you give a cure for
A Subscriber.

ike the most people you
e on cleanliness. This is
y, for very few homes are
r the perfect cleanliness
ontrol bacteria. In this
s a bitter bacteria devel-
keeping the milk a little
r scalding everything that
ed in the care of it before.
is kept a little too cool
lopment of the lactic acid
is bitter one develops.
ilk at 60 to 65 and where
tle air circulating. If this
lone then warm the milk
setting it. Sometimes a
nced lactation period will
milk, but it is usually
l.

blacksmith cut down to
d use rosin to burn it out
shoe with a bit of leather
he corn from striking the

Trouble.

formation in regard to
of trouble with young ap-
Last year I noticed only
ar there are five trees not
ether. They are two and
d Gravensteins; made
. The trunk commences
m to look black, the bark
s and peals off and looks
would if a fire had been
it. Last year it only
f way up the trunk. This
hes up trunk and one-half
two largest limbs. They
d in a prune orchard and
cared for by plowing, cul-
l hoeing. I send you a
he soil they grow in.
d them are all right. Is
ing can be done, and what
le? The bark is cracked
e-year-old tree trunk. The
to be leaving out all right.
topol.

ossible to state positively
uble is without a personal
but your case sounds like
There is a variety of toad-
ills prune and apple trees
rts of this State and it may
that it is this that has
trees. It often attacks the
t of them at first but grad-
ads and kills the whole
digging around the roots
em dead or any fungus
them, that is what troubles
make sure of it, you had
he Department at Berkeley
plant disease man to help

dvise the use of kerosene
or pea lice? Will common
ap do? The lice are about
the flax seed and green in
y are sapping the life of
W. H. S., Upland.

ne that you mean the com-
or plant louse, though we
heard them called pea
e infest the succulent
such hordes as to seriously
plant unless they are de-
f your garden is near the
ey may be knocked off
ong spray of water. Or,
the kerosene emulsion or
with strong tobacco juice,
ation about the making of
be had by referring to the

Cultivator of March 12th. The common cheap laundry soap will answer for making the emulsion nearly as well as the whale oil soap. The lice are very easily killed.

Rolling Down Onions.

Will you kindly inform me through the Cultivator as to whether it is a common practice with onion growers to roll down the onion tops, and do you consider it beneficial? Also at what stage of the growth of the onion is this done?—C. E. S., Chino.

Many gardeners practice rolling the onion beds, claiming there will be fewer scallions. I have never been able to se that it made any difference. If an onion shows indications of developing into a scallion or "thick-neck" no amount of breaking down the top will cause it to develop into a well shaped bulb, and I would consider it labor thrown away to roll a bed with that end in view. It is usually done just about the time the crop seems to have attained its full growth. Some growers wait until the tops begin to turn brown or ripen.—Q. A. L.

Veterinary

Dr. R. T. Whittlesey, veterinarian, of 714 East Seventh street, Los Angeles, will answer questions in this department. In writing of sickness or injury to any animal be explicit in giving symptoms and particulars. Always enclose full name and address, but if assumed name or initials are preferred they will be used.

If an immediate mail reply is wished enclose $1.00 for such service, but for replies in paper only, no charge is made if the answer will be of general interest.

Weak Legs.

Will you tell me through the Cultivator what is the matter with my pigs. They commence to fall down in hind parts at six weeks old. Later tip over on their ankles and drag their hind legs after them. Are fat, likely, and have good appetites. They gradually get worse. These come of healthy stock for generations back and mothers fed on skim milk and corn. Veterinarian prescribed sulphate of iron and we have tried home remedies all of which did no good.—Old Subscriber, San Jacinto.

From your description I think they have richets, which comes from lack of bone making material or mal-nutrition where it is not taken up by the system. They should have calcium phosphate in one drachm dose twice daily.

If you make a solution of one ounce of calcium phosphate to eight ounces of water each ounce of the solution will contain the proper sized dose.

Veterinary Law.

Will you please tell me what the law of this State is in regard to the practice of veterinary medicine, or inform me where I can get such knowledge.—F. B. S., Sanger.

It is illegal to practice without a license from the State Veterinary Medical Board. To procure this a man must be a graduate from a recognized college and besides must pass an examination before this board.

Dr. W. B. Rowland, Pasadena, or Dr. W. E. D. Morrison, Los Angeles; either can give you further information.

Injured Feet.

Have a fine five-year-old 1500-pound mare with a young colt. One morning an iron rake very much bent was found under her feet, presently she began to walk lame. About that time she was shut up in the stable for short periods, with colt in yard. She made a good deal of noise pawing sides of stable and floor. I find no fever in foot or anything to locate any injury of shoulder. No better in three weeks.—A. A. H., Exeter.

Have been in constant practice for

Continued on Page 567.

Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

EGGS FOR HATCHING.

ORPINGTONS, BUFF AND BLACK, THE winners of the lion's share of honors at the Los Angeles County and Breeders' shows this year. The birds that win in the keenest competition and lay eggs all the year. Birds that pay as they go. Handsome catalogue free. Guaranteed fertile eggs in any quantity. Proven breeding stock very reasonable. Write today. Orpington Reservation. ROSS & TATE, Altadena, Cal.

EGGS FROM MY PRIZE WINNING BARred Rocks; won all firsts, all seconds but one, and all specials on Barred Rocks at L. A. C. P. A. Show, 1907. Eggs from best pens, $3 per 15; $12.50 per 100. Stock for sale. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

BURTON'S BRED-TO-LAY STRAIN BUFF Leghorns, White Leghorns and Black Minorcas, all healthy stock. Eggs per sitting of 15, $1.50 and $2.50, also little chicks 15c and 25c each. C. I. BURTON, 1348 East Adams St., Los Angeles, Cal.

BUFF ORPINGTON AND WHITE Rocks, $2.00 per sitting, $6.00 per 100. Indian Runner ducks, $1.00 per 12, $5.00 per 100. First class stock. WYATT & WOLLITZ, Fern Park Poultry Ranch, Corona, Cal.

$5.00 PER SETTING FROM WHITE CRESTed Polish Bantams, from imported stock Most beautiful Bantams in the world. No stock for sale this year. R. D. PECK, 367 S. Boylston, Los Angeles, Cal.

FOR SALE—LINE BRED WHITE ROCK cockerels from Mrs. Basley's original strain. Write for prices. Also eggs for sitting $2.50 per 15. MRS. KATE B. JOHNS, Compton, Cal.

EGGS FROM THE SECOND PRIZE PEN of White Rocks at Breeders' Show, $1.50 per 15; $2.50 per 30. J. W. WHITNEY, R. D. No 2, Long Beach, Cal.

S. C. RHODE ISLAND EGGS, WINSLOWS strain. $1.00, $2.00, $3.00 for 15. MRS. JOHN E. ADAMS, Box 785, Monrovia, Cal.

LIGHT BRAHMA EGGS FOR HATCHING. $1.00 per 15 or $6.00 per 100. J. S. BENNER, San Bernardino, Cal.

THOROUGHBRED BARRED ROCK eggs; pens headed by cocks from Bemis' prize winners, $2.00 per 15. A. E. WARD, Kenwood, Cal.

WYKOFF WHITE LEGHORNS—BRING results. $1.50 per setting. $7.50 per 100. W. F. HISLOP, Riverside, Cal.

S. C. WHITE LEGHORN EGGS, $5.00 PER hundred. Large, healthy stock, fine winter layers. D. H. CLAYTON, Colusa, Cal.

PHEASANTS.

SEND 25c FOR BOOKLET "PHEASANT Farming." Tells how to raise pheasants. Many beautiful halftones. SIMPSON'S PHEASANT FARM, Box C247, Corvallis, Oregon."

DOGS.

SABLE AND WHITE COLLIE PUPPIES—Sires, Brandane Wishaw Squire and Glen Fana Bounder, litter brother to Anfield Model. Dams, Ormskirk Gloriana and Presidio Nellie. $10 to $25; 2 to 8 months. GLENALPINE KENNELS, Grandville, Cal.

HOGS.

FOR SALE—ONE YEARLING REGISTERED Poland China boar; one yearling grade boar, good breeder; cheap. Some good sows, both registered and grades; also young pigs. Call, or write J. L. TUMMOND Buena Park, Cal.

INCUBATORS.

FOR SALE OR EXCHANGE—200-EGG Must-Hatch Incubator, 200-chick brooder, good as new, $25,00, or will take registered Pointer bitch. F. F. WILSON, Auburn, Cal.

MELON SEED.

PLANT THE SANTA CLAUS MELON—Write to us for our circular of instructions. This is the best late melon ever introduced. It is at its best from Dec. 1st to Feb. 1st. 1 oz., 25c; 1 lb. $3.00: JOHNSON & MUSSER SEED CO., 113 N. Main St., Los Angeles, Cal.

FARM FOR RENT.

FOR LEASE—ONE OF THE BEST equipped poultry ranches in the State for two years or more. Leasee to buy stock, about 1700 head, at from $9 down, also about 1100 this February and March hatch pullets. Ranch in first class condition. Practically new 6-room house fully plumbed. Within three-fourths of a mile of Court House; free delivery of groceries and feed. Reason for leasing poor health. A rare opportunity. Investigate. Inquire this office or on ranch. F. L. JONES, Hollister, Cal.

FARM LANDS FOR SALE.

FOR SALE—SALT RIVER VALLEY ranches in tracts of 10 acres to 160 acres and up suitable for raising oranges, lemons, pomelos, alfalfa, sugar beets, melons, deciduous fruits or anything grown in a semi-tropic country at prices ranging from $30.00 to $200.00 per acre. Investigate this. F. J. BARR, 4 West Adams, Phoenix, Arizona.

FOR SALE—1 TO 10-ACRE TRACTS ON CAR line, between Riverside and new cement works; good for chicken ranches, alfalfa or gardening; will sell on easy terms; plenty of water on each tract. C. C. POND & N. R. BELL, Riverside, Cal.

FOR SALE—1 12-ACRE TRACT ON EASY terms. Good onion, grape, melon, alfalfa lands. Will rent my home place on good terms. Take S. P. train No. 8 to Durbrow, Coachella valley or write to A. W. McGILL, Thermal, Cal., near Durbrow.

FOR SALE—TWENTY AND FORTY acres, level, good land. Fine for chickens, berries, etc. $30 per acre. Very easy terms. No irrigation required. WM. MANTZ, Santa Maria, Cal.

MACHINERY.

MACHINERY FOR SALE—ELECTRIC AND gasoline engines, pumping plants, pipe. Good bargains in new and second-hand machinery. LOOMIS & BROWN, Machinery Brokers, 323 Citizens Nat'l Bank Bldg., Los Angeles, California

FOR SALE—35-H. P. GASOLINE ENGINE in excellent condition. 2500-gallon wood tank, wood split pulleys. NATIONAL WOOD PIPE CO., 404 Equitable Bank Building, Los Angeles, Cal.

REAL BARGAINS IN SEVERAL BYRON-Jackson centrifugal pumps secondhand; guaranteed as good as new. BAILIE & BRANDT CO., 943 N. Main St., Los Angeles, Cal.

FOR SALE—CHEAP FOR CASH—SIX AND eight-horsepower distillate engine never been used. N. W. cor MAIN AND BRUNO STS., Los Angeles, Cal.

FOOS 13-H. P. GASOLINE ENGINE almost new, cheap. 117 BRUNO STS., Los Angeles, Cal.

POULTRY

BARRED PLYMOUTH ROCKS, OCEAN Blue strain; for show points and as layers, unsurpassed; if you don't believer it, try a setting or two of eggs or, better still, an incubator lot, and prove it, as many others have done; eggs, $2 to $5 per 15; incubator lots, $8 100. MRS. AND MR. D. T. WIELAND, Moneta, Cal. Take Moneta ave. car for Redondo, get off at Illinois st., Moneta, right on ranch.

BLACK MINORCAS OF QUALITY—A Choice lot of large size cockerels bred to standard requirements. A rare chance to get an excellent breeder $2 to $5. One pen mated up for my own use of finest high scoring female specimens and layers, standard weight and over, to a grand cock bird which headed Geo. H. Northup's first pen last season. A few settings to spare at $3.00. J. P. McDONOUGH, Geyserville, Cal.

FOR SALE—STOCK AND EGGS OF THE following standard bred poultry: Black Orpingtons, the great winter layers, Brown and White Leghorns. J. J. VERKOUTEREN, route 3, Hanford, Cal.

KILLAMITE KILLS THEM—BEST INSECT powder made for fowls or plants. 50c for 2½ lb. sifting can, express prepaid by us if your dealer hasn't it. WEST COAST MILL, 818 San Fernando St., Los Angeles, Cal.

SILVER LACED WYANDOTTES—BEST stock on the coast. 9 ribbons on 10 entries at late Chutes Park show. Eggs, $1.50 per 15. FAIRVIEW POULTRY YARDS, A. E. NELSON, El Monte, Cal.

INDIAN RUNNER DUCKS AND BLACK Langshan fowls. Eggs and stock for sale. Large, fine stock, with good range and strong fertility. CLYDE J. MOSS, Corona, Cal.

SHIPPING CRATES FOR POULTRY. Write for particulars. Established 1900. A. & H. SEIBEL'S SONS, 320 E. 6th St., Petaluma, Cal.

MISCELLANEOUS.

FOR IMPERIAL VALLEY NEWS SUBscribe to the Brawley News, BRAWLEY, Cal., $1 a year, sample copies free.

ELLIOTTS OINTMENT CURES LUMP jaw in cattle—never fails—$1.00 per box. D. R. ELLIOTT, Riverside, Cal.

IF YOU WANT A COMPLETE FRUIT drying outfit cheap, address J. F. STOUT, San Jacinto, Cal.

FOR THE HOME.

ADD BEAUTY TO YOUR HOME—A GENuine Suntan leather drapery or pillow cover will do it. Sold direct at factory prices. Express charges prepaid. Illustrated catalogue shows many styles. Mailed free. Special trial offer to Cultivator readers. Write for it today.—SUNTAN LEATHER COMPANY, Mfrs., 720 Spring Street, Los Angeles, Cal.

WANTED—MALE HELP.

MEN TO LEARN A TRADE IN FEW months by actual work in shops and on buildings—no toys or books. Plumbing, electricity, bricklaying, etc. Organization of contractors employ graduates. Free picture catalogue. UNION SCHOOL OF TRADES 120 to 126 E. 9, Los Angeles, Cal.

SITUATION WANTED.

WANTED—A WELL RECOMMENDED MAN capable of taking charge of a dairy farm or ranch; would like to find the right place for a good man, unmarried and will go to any point in California or Arizona. Address A. B. C., care Cultivator office, Los Angeles.

A NEW ORDER.

Mrs. Bildad looked up over the evening paper which Mr. Bildad had thrown aside and asked;

"I believe you are an "Eagle," are you not?"

"I am," proudly remarked Bildad.

"And an Elk?"

"That's right—I am."

"Well, Im thinking about organizing another society with a name something like them."

"What are you going to call it?" queried Mr. Bildad.

"I think I'll call them 'Homing Pigeons,'" replied Mrs. Bildad, "and I want you to be a charter member. I suppose you have to go back to the office this evening?"

But by this time Mr. Bildad was in the hall, reaching for his hat and coat and muttering to himself.

The Oldest Savings Bank in California

FOUNDED IN 1857

The Savings and Loan Society

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Exclusively a Savings Bank whose policy is for ***Conservatism*** and ***Safety,*** the result of ***50 years experience.***

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Read what Mr. A. W. Foster, President of the California Northwestern Railway, has to say about them:

Gentlemen: Replying to yours of the 20th inst., I would state that the plant installed for me by the Western Gas and Power Company on my Hopland Stock Farm, is giving entire satisfaction, and I cannot speak too highly of it. Yours truly,
A. W. FOSTER.

Mr. Foster used an acetylene gas generator before we installed our Western. Send for our latest Booklet.

Good reliable Agents wanted.

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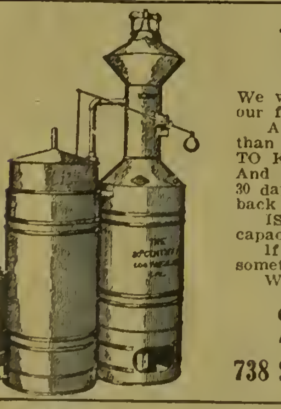
$16.30 buys this handsome six-hole Nickle-Trimmed Cast Range direct from the Manufacturer

without high shelf. With high shelf, just as shown in the cut, $19.97; large oven, six cooking holes, best quality of iron. Burns coal or wood. Handsome nickel trimmings. OUR TERMS are the most liberal ever made. You can pay after you receive the range. You can take it into your own home and use it 30 days. If you don't find it exactly as represented, the biggest bargain you ever saw, you won't have to keep it.

Write today for our beautifully illustrated Stove Catalogue No. 101-C. A postal card will do it. Don't buy until you get it.

P. F. Ross & Co.

443 Pine St. San Francisco, Cal.



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We will all agree to that. We owe it to our eyes and to those of our family.

Acetylene Gas is the best. Ask the Scientific American. Cheaper than coal oil, candle power for candle power. WE WANT YOU TO KNOW our 1908 Model as we and hundreds of others know it. And for that reason we will ship one or place it in your home on 30 days' free trial and trust you to give it a square deal. Ship it back at the end of that time or make settlement.

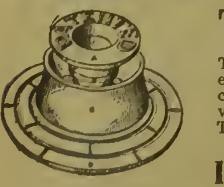
IS THIS FAIR? Machines in four sizes—20, 35, 50 and 100 lbs. capacity.

If you can sell a few machines in your locality we will tell you something else that will look good, when we hear from you.

Write today. Yours for a square deal,

20th Century Light Company

738 San Pedro St. Los Angeles, California



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The Star only Oil-Gas Burner is a simple, safe and economical device for taking the place of wood and coal in all cook stoves, ranges, heaters or furnaces, without more soot or smoke than from a wood fire. The only Oil-Gas Burner that will not clog.

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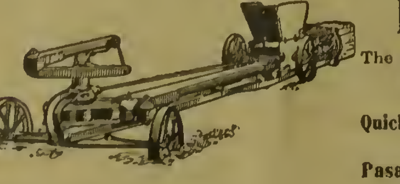

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Household Departme

AFTERWHILE.

Afterwhile—and one intends
To be gentler to his friends—
To walk with them in the hush
Of still evenings, o'er the plush
Of home-leading fields, and stand
Long at parting, hand in hand:
One, in time, will joy to take
New resolves for some one's sake,
And wear then the look that lies
Clear and pure in other eyes—
He will soothe and reconcile
His own conscience—afterwhile.
—James Whitcomb Riley.

THE SCAPEGOATS.

"IT is false," he said, with slow anger. She stiffened and looked coldly into his eyes.

"It is a--lie," he insisted, more quietly, but more emphatically, folding his arms across his chest. "Stella, are you going to accept a comparative stranger's word against mine? It's monstrous—perfectly abominable."

"I saw you—drop the knave of trumps into your lap when Mr. Manton led the seven," she said in a whisper deliberately. "And the knave of trumps was in Bob's hand."

"And the knave of trumps was in your brother's hand?" he said after a moment's pause.

"Oh," she cried, springing up, "you mean your tone to imply that Bob might have been cheating, as he was your partner? How mean—how contemptibly mean! You would like to make him carry the load of your shame for you! A boy of nineteen—a Carlton! There never was a Carlton who would cheat at cards!"

"Nor a Riversley," he answered, coldly.

"I am sorry that I should have been affianced to the Riversley who broke the line of honest gentlemen of that name," she retorted, hotly.

"That is unworthy of you," he said, gravely. "I think I had better go."

"Yes," she said, between her teeth, tearing at her finger rings, "you had better go." She held one out to him and a look of faintness stole over her proud face.

He took a step toward her and she reached toward him and dropped the ring into his hand.

"Thank you," he murmured. "I—He checked himself, turned and left her.

II.

"I knew you were cheating and that Wallance and Manton realized something was wrong; and I was sure you'd play the knave on the trick and my knave would expose your dealing. You must tell her, Carlton! It's impossible I should go about branded as a card cheat!"

"I cant tell her!" cried the boy, stamping his foot impatiently. "You don't know what it would mean Stella is as proud as Lucifer, and—I don't know what she'd do. She'd tell dad for one thing, that's certain; and—oh, Riversley, old chap, you don't know what it would mean or you'd never ask me to do it."

"Well, I've told you how I stand," said Riversley, rising and walking over to the mantlepiece. "She believes I was cheating and—she's chucked me; just as any girl would do, believing it. I don't blame her for that; what I blame her for is believing me capable of such a thing."

"I can't do it! Good heavens! you must be mad to think I could go to her, and—it's impossible! I'm sorrier than I can possibly say, Riversley. I would have done anything in the world rather than it should have fallen on you."

"No more words about got to put it right. Within four hours I shall expect from Stella that she knows still a gentleman."

III.

On the balcony of a little ho looking the Bay of Naples sat ley in an armchair. The comfortable to a luxuri yet he moved constantly uncomfortable. He was a paragraph that he had an hour before in the M which he regularly receive

"A marriage has been ar tween Miss Mary Vincent ton, only daughter of Gr ton, Esq., of Hadley Park 341 Hill street, W., and Brundon Rouston of Rous

The announcement ha him as a surprise, for the no hint of such a thing the letters he had had f Carlton during the last Otherwise, of course, it prising. Houston was fellow, a handsome man est gentleman. No, other not surprising.

Riversley moved uneas chair and the paper slippe knees. He let it lie. The matically picked up the P which had arrived with hi Post and tore it open. S started. Bobby Carlton w Stella and her father were The boy had been hurled motor car he was driving. few hours later in the Par

Had he spoken?

Riversley rose weakly chair and hurried from th Forty hours later he was Immediately on his arrival at the hotel at which the said the Carltons were stay

Mr. Carlton was not wit hesitating, Riversley wrote words on a card and sent Stella. She came to him i ing room, and he knew w ing heart that the boy had

"I have read of the ac your brother, Miss Carlton. Naples," he said. "I—may he left any message—er—

"No; not that I am awa answered, folding her ha her. "He is not dead, you reports were wrong in lar."

"Not? Oh, I am might

"But there is no hope— ever. Father is with him pital now."

"I—I am awfully sorry!" Riversley, glancing at his h I don't know whether it will fitting request to make, but it be possible if he is cons me to see him for a few a matter of the utmost impor myself? She hesitated ed: "I may say it is a more than life and death to

"If you will wait while I put hat I will come with you to the pital and see," she said.

"Thank you," he replied, glancing at her with bright eyes.

"We will walk—it is near," said, when she reappeared.

"Do you wish to see him al she said, as they reached the pital.

"No; oh, no."

Continued next week.

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Book of instructions
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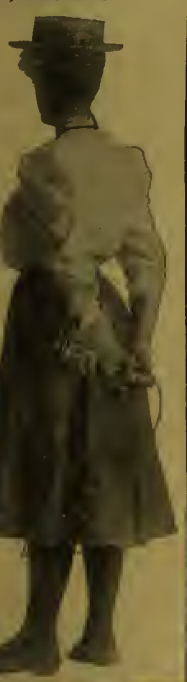

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PERSONAL NEATNESS.

Just now it's the mumps. Our children have it—or them—whichever is correct. But the mumps are "easy" and give the youngsters a good excuse to stay out of school. But there are others not so easy, which are sometimes serious. The following from M. A. Y. is full of good suggestions:

Not Too Young to Learn.

When the little ones are old enough to start to school, they should be taught to guard against infection, as much contagion is carried by school children, simply because they have not been taught the danger of it, or how to avoid it. They should be taught to never wash their face and hands in the same basin with the other children at school, as many have serious eye trouble, and by using the towel that these children use, the granulated lids and other diseases of the eye can be transmitted, as they are very infectious. The same is true in the use of handkerchiefs, and each child should be provided with one of its own, so there will be no occasion for borrowing another, and if one child has a bad cold or sore eyes, their handkerchiefs should be washed separately and not with the other children's. Wash them separately in hot suds which has had a teaspoonful of borax dissolved in it, then rinse thoroughly in two waters with a little borax in each, as the borax not only softens the water but purifies and disinfects, and there will be no danger of disease germs when they are washed in this way. It is remarkable how soon the children learn the danger of contracting diseases, and they soon learn to be very careful along this line, if they are only warned and talked to earnestly by their mother. As disease germs can be carried under the finger nails, a good plan is to have the children wash their hands thoroughly every night before retiring, using a nail brush, and soaking the nails for some time, then after their hands are washed and dried have them push back the skin at the base of the nail with a soft, dry towel, as this treatment will discourage hang nails and greatly improve the shape of the finger nails. It is wise to observe such little practices, for infectious diseases are numerous, and when once you get them it takes years sometimes to eradicate them.—M. A. Y.

HOMELY HINTS.

If you scorch an article badly when ironing, moisten it with lemon juice, rub in some salt and lay it in the sunshine. If it is only a slight scorch the sunshine alone will remove it.

Burns and Scalds.

To relieve pain, put on common baking soda, after first putting the injured part into tepid water. Then cover with cotton wadding. Carbolated vaseline—ten drops acid to one ounce vaseline—is a good dressing spread upon cheesecloth. If the burned places swell badly, apply fomentations to stimulate the circulation. In very severe cases where much skin has been destroyed, the burned parts can be kept immersed in water until new skin is formed, changing the water once or twice a day. In the hospital in Vienna, I saw a man who had lived in a continuous water bath for nearly a year, as treatment for very extensive burns. He was nearly well enough to be restored to a drier mode of life.

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The Produce Markets

Los Angeles Markets

LOS ANGELES, May 13, 1908.

Receipts of butter are heavy, but tone of market remains firm. Some sales are made a cent in advance of quotations.

Creamery ex per roll	47½
Firsts	45
Dairy	22
Cooking	17½
"Butterine"	15@20

Cheese.

Southern California	14½
Northern fresh	14@15
Eastern singles	16½@17
Imported Swiss	29@30
Tulare flats	15@15½
Swiss	19½
Oregon	18

Eggs and Poultry.

Eggs show another advance of a cent during the week and the market is exceptionally firm.

Eggs local candled	21
Eggs case count	19
Northern candled	19@19½
Case count	18¾
Eastern fresh	18@19
Hens per lb	11
Young roosters per lb	17
Fryers	22
Broilers per lb	23
Roasters	18
Old roosters	8
Turkeys	16
Geese	13
Ducks	12
Squabs	1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds	6½
Prime steers	4½
Heifers	4
Calves per lb	5
Sheep ewes per head	4.75
Lambs per head	3.50
Wethers	5.50

Potatoes.

Highlands	90@1.00
Early Rose	1.70@2.25
Salinas	1.25@1.50
Sweet potatoes per sack	3.75@4.00
Oregons	1.25@1.35
White Rose	1.35
Watsonvilles	1.25
New potatoes by lb	2
Lompoc	1.40@1.50

Onions.

Bermudas per 100	2.50
Coachellas	3.30
Silverskins new	2.00@2.50
Garlic	12

Vegetables.

Artichoke per box	.50
do Jerusalem box	.75
Asparagus per lb	9@10
Asparagus green	7½@8
Beets per doz	25
Bell peppers per lb	25@30
Beans limas per lb	10@12
Beans green	5
Beans yellow	5
Brussels sprouts per lb	12@18
Cabbage sack	50@60
Cabbage red per lb	2
Celery per doz	60@75
Corn per doz	35
Chili peppers per lb	20
Chives per doz	1.25
Cucumbers per doz	60@75
Cauliflower	75@1.00
Carrots per doz	25@30
Egg plant lb	12½@15
Green onions doz bunches	20@30
Hubbard squash per lb	1@1½
Lettuce per crate	50@1.00
Mushrooms per basket	1.75
Mint per box	40
Okra	20
Peas sugar per lb	4
Parsley	30
Parsnips	35@40
Rhubarb per box	60
Radishes per doz	15@20
New summer squash per box	1.40
Summer squash	50@75
Salsify	40@50
Spinach per doz	15@17½
Turnips doz bunches	35
Tomatoes per box	2.00@2.15

Citrus Fruits.

Navels fy	2.00@2.50
Navels ch	1.25@1.75
Tangerines	2.00
Culls	40
Grapefruit seedless	2.50@3.00
Grapefruit seedlings	1.50@1.75
Lemons fancy	2.00@2.50
Lemons choice	1.00@1.25

Fresh Fruits.

Bellefleurs	2.00@2.25
Baldwins	1.50@1.75
Pippins 4-tier	1.50@1.75
W W Pearmains	2.00@2.30
Colorado Jonathans	3.00
Cal Ben Davis	1.75@2.00
Cherries	1.85@2.00
Loquats per lb	3@4
Dewberries	10
Raspberries	10@12
Strawberries	2@3
Extra fancy	10
Blackberries	10
Gooseberries	20

Dried Fruits.

Apricots	18@22
Evap apples fy per lb	11@12
Figs loose	7
Peaches	11½@12
Pears	16
Nectarines	16
Prunes	3½@5½

Beans Dried.

Limas per ctl	4.75
Pink No. 1	3.50@3.65
Lady Washington	4.00
Small White	3.75@3.85
Black Eyes	4.50@5.00
Garvanzas	5.50
Lentils	11½

Nuts.

Almonds per lb	17½
Pecans polished	16@17
Peanuts Virgina	8½
Peanuts California	8½
Walnuts No 1 SS	16
Walnuts No 1 H S	14@15

Honey.

Extracted Water White	7¼@7½
Comb W W	14

Hay.

Price paid to producers f. o. b. Los Angeles are as follows:

Barley No 1	15.50@16.00
Barley No 2	11.00@15.00
Alfalfa northern per ton	12.50@13.50
Alfalfa local	17.00@18.00
Plain oat No 1	15.00@17.00
Wheat No. 1	15.00@16.00
Wheat No. 2	11.00@12.00

Grain.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl	1.85
Wheat in 100-lb. sacks	1.90
Barley	1.50
Corn Eastern sacked	1.80
White oats	1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn	1.85
Shorts	1.70
Bran	1.55
Oil cake meal	2.50
Feed meal	1.90
Rolled barley	1.55

San Francisco Markets

SAN FRANCISCO, May 12, 1908.

Butter.

Butter advanced sharply early in the week, but at this writing has declined and now stands at exactly last week's quotations. Supplies are large and tone not as strong as a few days since.

California extras per lb	23
California firsts	22½
California seconds	22
Fresh packing stock	20
Fresh packing stock No. 2	19

Cheese.

California young American fy	13½
California flats fy	12
Firsts	11½
Eastern fy	16
Oregon fancy	14

Eggs and Poultry.

Eggs dropped immediately after last report to 20½ where they still remain. At present the market is exceptionally strong. Some dealers are even demanding and receiving 21 cents.

Fresh ranch eggs	20½
Eggs firsts per doz	19½
Eggs second per doz	16½
Eggs thirds	16
Hens per doz	5.00@6.50
Hens extra	7.00@9.00
Young roosters	7.50@8.50
Old roosters	4.00@4.75
Fryers per doz	7.00@8.00
Broilers per doz	4.50@5.50
Geese per pair	2.00@2.50
Ducks young	5.00@7.00
Turkeys per lb	14@16
Pigeons	1.35@1.50

Live Stock.

Steers No 1	7½@8
Do second quality	6½@7
No. 1 cows and heifers	7
Hogs 80 to 200 lbs	6@6¼
Hogs 200 to 300 lbs	5½5¾
Calves per lb	3½@4½
Lambs	5½
Wethers No 1	5
Ewes No 1	4½@4¾

Potatoes.

River Whites	40@85
Oregon Burbanks	90@1.15
Lompocs	1.15@1.25
Salinas Burbanks	75@1.15
Sweets per crate	3.50
New potatoes per ctl	1.50@1.75

Vegetables.

Asparagus per lb	6@8½
Celery per doz	35@50
Cucumbers per doz	50@1.15
Chili peppers per lb	25
Egg plant per lb	15@20
Green peas per sack	75@1.15
Squash per box	40@65
Marrowfat squash per sack	60@75
Mushrooms	75@1.25
Hubbard squash per sack	60@80
Onions green per box	25@40
Rhubarb per box	50@1.00
Tomatoes local	1.25@1.75
String beans	5@6
Wax beans	5@6
Garlic	17½@20

Onions.

Oregon yellow	3.50@4.00
Eastern red	1.50
Bermudas per crate	1.50@1.60
Australian Brown	4.00@4.50

Citrus Fruits.

Navels fy	2.50@2.75
Navels ch	1.90@2.10
Grapefruit seedless	3.25@3.50
Grapefruit seedlings	1.75@2.25
Tangerines	1.50@2.00
Lemons	2.75@3.00
Limes	5.50@6.00

Fresh Fruits.

Newtons	1.65@2.00
Spitzenberg	1.75@2.00
Pomegranates per box	1.00@2.50
Strawberries per ½ crate	1.00@1.25
Longworths per chest	12.00@14.00
Cherries	40@1.00
Aligator pears	1.50@3.00

Dried Fruits.

Apples (evap.)	5½@6¾
Apricots per lb	13@17½
Figs white	2¼@3½
Nectarines	10@13
Plums pitted	12@14½
Peaches	7¾@9¼
Pears	7½@11
Prunes 4-size bag basis	2¾@3½

Beans Dried.

Limas	4.60@4.70
Pink	3.00@3.10
Small white	3.40@3.55
Large white	3.45@3.60
Lady Washington	3.45@3.50
Black Eyes	3.25@3.50
Red Kidneys	3.20@3.40
Garvanzas	4.00@4.25
Bayo	3.00@3.15
Horse beans	2.25@2.40

Hops.

Hops per lb	3½@6½
Hops old fancy	1½@3

Honey.

Clear white comb	16@17
Amber	12@15
Extracted	7½@8
Beeswax No. 1 per lb	26@27
Beeswax No. 2 per lb	23@25

Hay.

Somers & Co. say:

Arrivals of hay have been rather light during the past week, the total showing 2340 ton, about the same quantity noted for the week preceeding. The market has been alternately strong and weak according to the number of buyers on hand each day. As we write, the situation is not particularly active, although the choicer grades of wheat, tame oat and wild oat hay for retail purposes are in good demand. Because of the comparative scarcity of the choicer varieties there is a wide range of prices and although the extreme prices obtained might indicate a much better market than was experienced a week or two ago, yet on the whole, the situation is practically unchanged with occasional fancy cars only selling at advanced figures.

Crop conditions seem to be the all-important topic of the day and although considerable excitement is felt in some localities yet with our recent showers and favorable cool weather we have no apprehension as to the outcome of the situation. We believe that both the hay crop and the barley crop will be sufficient for all our needs and that prices on both will rule at a moderate range so that no hardships will be imposed on either the grower or the consumer.

Choice wheat hay	1.70@2.00
Good wheat hay	14.00 to 16.00
Other grades same	11.50 to 13.50
Wheat and oat	12.50@17.50
Tame oat	11.50@17.00
Wild oat	10.00@16.00
Stock hay	8.00 to 10.00
Alfalfa	9.00@13.50
Straw, per bale	50@95

Grain.

Wheat No 1	1.57½@1.65
Barley No 1	1.37½@1.42½
Corn large yellow	1.67½@1.75
Oats white	1.50@1.57½
Oats red	1.52@1.60

Feed Stuff.

Bran per ton	30.0
Feed cornmeal per ton	33.0
Cracked corn per ton	34.0
Rolled barley per ton	29.0
Oil cake meal per ton	37.5
Cocoanut cakes per ton	27.0
Middlings	33.0

Citrus Marke

LOS ANGELES, May13

Oranges are a favorite in the kets and selling remarkably this time. Prices are good, if thing better than last week. F carrying well, nearly all is l a little is ventilated only

Navels are nearly all two sections now have a left—less than 300 cars all t mikes and sweets are no supply. An occasional V sent, but it will be a cou before shipments of lates w on.

Lemons are slightly in t yet. Far better than earli foreigns are so liberal in Eastern points that price promise as bright a future

Shipments.

Shipments of citrus fru since Nov. 1st, 21,026 cars 2372 were lemons. To sam year 18,883, of which 1806 we

PHILADELPHIA, May cars navels, one car Sweets mixed cars sold. Weather Market is lower on account large sizes and heavy offe

NAVELS—
Greyhound S A Ft Ex Po
Pointer A C G Ft Ex Gl
Puritan S B Ft Ex Rialt
Cal. Sunshine O G C Ass
Clover Red O G Assn.....
Lionhead I L Lyon & Sons
Trademark O G C Assn...
Blue Keystone King Ft C
Native Sons King Ft Co
Our Popular F H Speich &
Hunter A C G Ft Ex Gle
Mt. Crest S A Ft Ex Pom
Tigerhead I L Lyon & Sons
Aloha Red O P Co.........
Success F H Speich & Co
Producers Red O P Co...
Red Keystone King Ft C
Flamingo C C U..........
SEEDLINGS—
Flower Gr Ft Co..........
Flamingo C C U..........
Papoose Strachan Ft Co...
First American Randolph Ft
SWEETS—
Camellia Red M O Co....
ST. MICHAELS—
Pointer A C G Ft Ex........

CINCINNATI, May 11 warm. Market steady. F sold. One on track.

NAVELS—
Greyhound S A Ft Ex Pom
Foothill S A Ft Ex N Pom
SWEETS—
Silence Flagler Ft Co.....
Cry Baby Flagler Ft Co.
ST. MICHAELS—
Pet S A Ft Ex San Di.....
TANGERINES—
Pet (halves) ....
Arab (halves) ....
LEMONS—
Greyhound S A Ft Ex San

BOSTON, May 11.—Th sold: twenty-four on track. ket is active. Weather fa

NAVELS—
Sweetheart High Ft Ex
Rey S T Ft Ex Fernan
Quail O K Ft Ex.........
Cosmos S B Ft Ex Yerke
Orchard Nat O Co........
Elephant O G C Assn...
Standard Nat O Co......
Tropical Queen M & Gre
Tunnel S T Ft Ex Ferna
Linnet O K Ft Ex.......
Princess Q C Ft Ex Coro
Independent Gr Ft Co....
Clover Red O G Assn.....
BLOODS—
Carnation H & Greene...
Pincess Ruby Q C Ft Ex
SEEDLINGS—
California Beauty......
TANGERINES—
Sweetheart (halves) ......

NEW YORK, May 8.— navels and one sweets sold ing. Market unchanged cloudy, cool.

NAVELS—
Ostrich S B Ft Ex......
Winner S B Ft Ex....
La Mesa Riv Ft Ex......
Royal S T Ft Ex......
Tunnel S T Ft Ex ......
Stag A C G Ft Ex......
Pointer A C G Ft Ex....
SEEDLINGS—
Pointer A C G Ft Ex....
Red Clover Covina Ft Ex
Hunter A C G Ft Ex........
BLOODS—La Mesa, Riv Ft $2.80; Stag, A C G Ft Ex $3.00, P er, $2.75; Red Clover, $2.80.

For Mehring Foot-Power Milking
chines see O. J. Weber Co., 555-5
Los Angeles St., Los Angeles, Cal.

0; Curtiss, $2.75; Standard,

MICHAELS—Pointer, $2.65;
2.55; Stock Label, $2.40.
LAND, O., May 8.—It is
Market is stronger. Four
Two on track.

e A H Ft Ex C Blanca	2.55
B Ft Ex Yerkes........	2.50
ight Red Ft Ex.........	3.20

DELPHIA, May 8.—Six cars
o cars seedlings and one car
ılt sold. Weather unfavor-
dy. Market very strong.
S—

K Ft Ex............	3.09
C G Ft Ex Glen.......	2.88
Bird Riv Ft Ex.......	3.50
B Ft Ex Yerkes.........	3.00
hine O G C Assn.........	3.51
Red M O Co..............	3.32

N, May 8.—Eight cars sold;
rack. Weather stormy. Mar-
.
S—

B Ft Ex Colt...........	3.10
Ft Ex Fernan...........	3.30
B Ft Ex Drew.........	3.05
Nat O Co........	3.40
O G C Assn.............	3.15
d O G Assn..............	3.00
Div Ft Ex Riv..........	3.15
T Ft Ex Fernan........	3.05
B Ft Ex Drew..........	2.85
Nat O Co...............	2.95
Penn Ft Co..............	3.05

ATI, May 8.—It is raning.
trong on navels. Three cars
on track.
S—

S A Ft Ex Pom.........	2.90
Ft Ex.........	3.10
O K Ft Ex..............	2.75
C C U.......	2.70

IS, May 8.—Tink market will
If it is weak on account of
rieties of fruit. Seven cars
six on track.
S—

ıca A H Ft Ex Prenda..	2.60
r A H Ft Ex Pren......	2.60
C G Ft Ex Lateen....	2.80
m Riv Ft Ex Pach.....	3.15

ORK, May 11.—Sixteen cars
two of seedlings, one of St.
and one of lemons were sold.
ery strong and higher on all
Lemons easier and lower.
clean and favorable.
S—

C G Ft Ex	3.00
Nat O Co.........	3.35
Nat O Co...............	2.90
ion C C Chapman.......	3.15
agle C C Chapman.......	2.65
r Ft Co.......	3.00
od High O Gr...........	2.65
rt High Ft Ex...........	3.50
Doodle High Ft Ex.......	2.70
Riv Ft Ex...............	3.25
A H Ft Ex.......	3.10
A H Ft Ex..............	2.95
A H Ft Ex.......	3.10
K Ft Ex.......	3.10
be Riv Ft Ex...........	3.30
K Ft Ex...............	2.65
K Ft Ex.......	2.60
bred C C U............	2.95
I L Lyon & Sons.......	2.90
Vest Height Bethel Co...	2.95
rchard Ind Ft Co.......	2.90

isn't the only feed fit for
abbage, potatoes, pumpkins,
t not, are all of some food
if you have a big supply of
er grains or vegetables that
sell to advantage, feed them
hogs. Sorghum and young
over are excellent feeds for
nd old brood sows to eat.
eep them full and contented.

QUERIES.

Continued from Page 563

twenty-five years and often find it very difficult to locate obscure lameness with the animal before me. And it is absolutely impossible to locate the above from the meager description at hand.

Inflamed Udder.

My cow dropped a calf recently. Have been unable to get any milk, the cow's bag being swollen and inflamed. —A Subscriber, Pasadena.

This is a case for a good veterinary, of which you have several. The udder should be inflated with sterilized air to dilate the milk ducts or tubes and force back the blood supply in that way reducing the congestion and fever. This is no case for delay, and by the time you read this it may be too late.

Lumpy Jaw.

Can you give symptoms of lumpy jaw in cattle and what other ailments are similar, and describe difference, cause and cure? Does the barb or sticker grass, or, as some call it, fox tail, ever work down the throat of cattle?—Jones, Santa Cruz.

The only absolute sure diagnosis of lumpy jaw or actinomycosis is by the aid of the microscope. Cut open the tumor, cut out a piece the size of a walnut, put in a large mouthed bottle in a solution of formaline and water 1 to 100. Send to Veterinary Department University of California, Berkeley. They will make a free examination. A cow may have simple abscesses not containing the ray fungi. I have opened hundreds and never found any fox tail as yet, if that is what you mean by "working down the throat."

Treatment for lumpy jaw was given a few weeks ago, and is as follows:

One pound of potassium iodide in sufficient water to make one quart. This makes 32 ounces of the solution and the dose is one-half ounce night and morning; give in any way that is most convenient. This is usually sufficient to produce a cure, but sometimes must be repeated. It is good to skip the treatment about every seventh day.

Stoppage of Teat.

Last year one of my cow's teats got a thorn in it. The milker pulled it out and the cow not liking to have it milked, it soon dried up. It has a large lump in the middle. She is now fresh again and that quarter seems to have milk in it. Do you advise me to open it up; if so, how? A neighbor has a bistoury.

You had best call in a good veterinarian, but if it is not possible, make a hole through the lump first with a trocar, follow with the bistoury. Introduce a self-retaining milk tube and keep it in all the time; cork it up except at regular milking time, when the tube should be moved to keep the stricture from adhering too tight. Tie a sack over the udder to keep the tube from being pulled out and so you will not loose it if it comes out.

MAN'S FOOD ASSURED.

One of the greatest problems which has in late years occupied the attention of scientists has been solved by the discovery of new deposits of nitrate of soda. "How can the exhausted fields and farms of the world be replenished with the nitrogen which alone can produce food for the race?" was the question. The finding of the new deposits in Chile, covering a vast area, is the answer.

Nitrate of soda is not as visibly connected with the welfare of the race as sunshine, but it is almost as important an element in the development of the individual and the perpetuation of the race.

Some specialists have said that the Chilian beds, as heretofore known, would be exhausted in fifty years, and that the era of decreasing crops would then begin, with terrible consequences to the race. As a matter of fact, new nitrate of soda deposits have been discovered continuously for many years, so that there has actually never been a time when the American farmer's supply of nitrate was in danger of failing. The new discoveries, however, place the certainty and immensity of his supply beyond all question. He can now secure unlimited quantities of this most effective and most easily applied of all fertilizers at a more advantageous price than ever before. In fact, overproduction is in sight unless new uses are found for nitrate.

From the best information obtainable the nitrate mines are good for 200 or 300 years, even at double the present rate of production, which is about 2,000,000 tons per year.

Nitrate of soda is the world's leading fertilizer and it is gratifying to note that the American farmer may now secure unmeasured supplies of his best fertilizer—contrary to the general rule—at rates cheaper than ever before.

anted to Give Satisfaction.
ombault's
ustic Balsam

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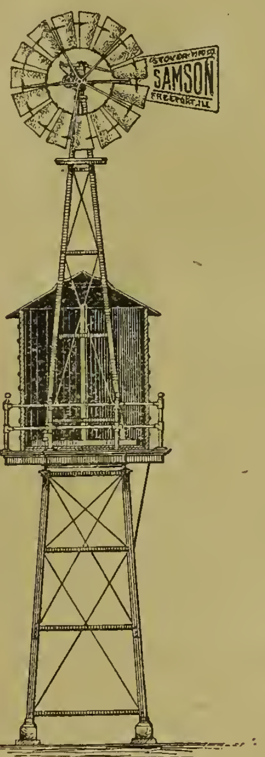
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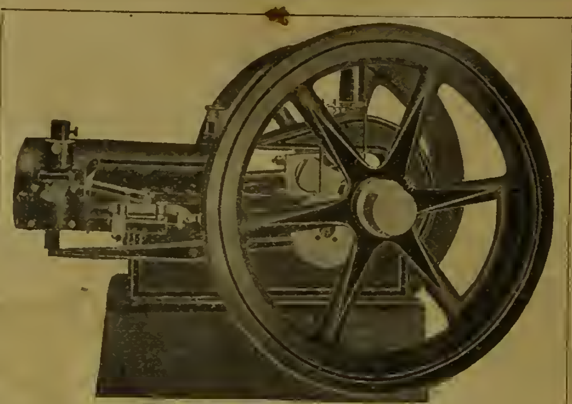

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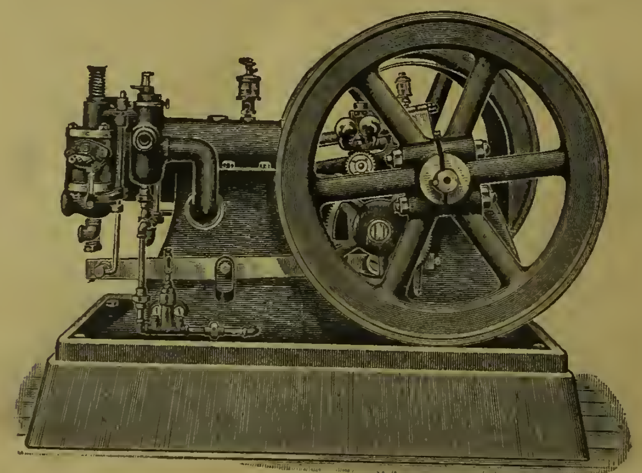

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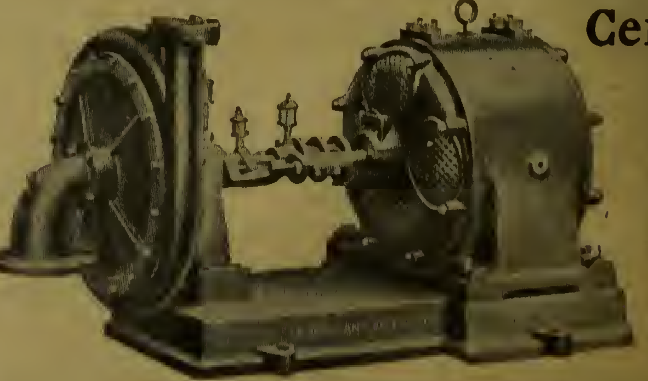

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nserving the Resources of Nature

ıave become great because of the lavish use of our re-
rces and we have just reason to be proud of our growth.
t the time has come to inquire seriously what will hap-
our forests are gone, when the coal, the iron, the oil and
e exhausted, when the soils shall have been still further
ıed and washed into the streams, polluting the rivers,
the fields and obstructing navigation. These questions
ıte only to the next century or to the next generation. It
us now as a nation to exercise the same reasonable fore-
lealing with our great natural resources that would be
any prudent man in conserving and wisely using the
which contains the assurance of well-being for himself
ildren.

ıatural resources I enumerated can be divided into two
istinguished classes accordingly as they are or are not
f renewal. Mines if used must necessarily be exhausted.
rals do not and can not renew themselves. Therefore, in
ith the coal, the oil, the gas, the iron, the metals gener-
hat we can do is to try to see that they are wisely used.
ustion is certain to come in time.

The second class of resources consists of those which can not only be used in a manner as to leave them undiminished for our children, but can actually be improved by wise use. The soil, the forests, the waterways come in this category. In dealing with mineral resources, man is able to improve on nature only by putting the resources to a beneficial use which in the end exhausts them; but in dealing with the soil and its products man can improve on nature by compelling the resources to renew and even reconstruct themselves in such a manner as to serve increasingly beneficial uses—while the living waters can be so controlled as to multiply their benefits.

Neither the primitive man nor the pioneer was aware of any duty to posterity in dealing with the renewable resources. When the American settler felled the forests, he felt that there was plenty of forest left for the sons who came after him. When he exhausted the soil of his farm he felt that his son could go West and take up another. So it was with his immediate successors. When the soil wash from the farmer's fields choked the neighboring river he thought only of using the railway rather than boats for moving his produce and supplies.—Theodore Roosevelt before Governors' Congress.

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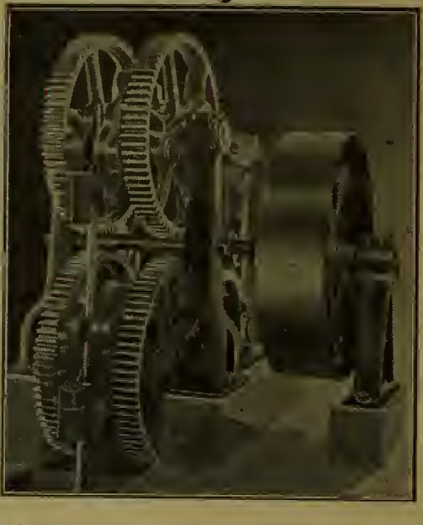

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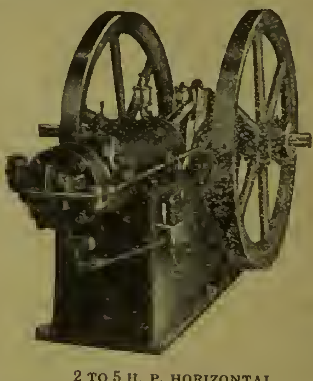

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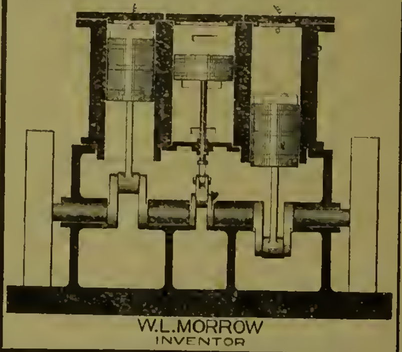

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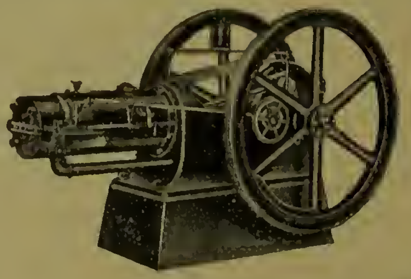

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XX—No. 21 Los Angeles, California, Thursday, May 21, 1908 Subscription $1 a Year

e Present Status of Parasitism

Address by S. A. Pease, Horticultural Commissioner of San Bernardino County, at the State Horticultural Convention at Riverside, April 29, 1908

e present status of parasitism I mean of
value are the different parasites, local
introduced, as proven by their efficiency
efficiency in the orchard or elsewhere

ia has had a lively interest in parasites
sect pests ever since the introduction of
ia cardinalis, parasite for the white scale,
rchasi, in 1888. At the time of its intro-
he white scale threatened the citrus in-
California. Thousands of dollars had
nt in mechanical methods endeavoring
the pest, but with very poor results.
lia proved master of the situation and
months from the time of its introduc-
practically cleared the field and given
ardists renewed courage. Later, an-
rasite, Novious koeblii, was liberated
rchards and proved a good second for
lia.
hat time growers have hoped that equal-
arasites would be discovered and brought
tate to combat all of our insect foes.
pes have been crowned with varying de-
success and failure.

Scale.

ly the San Jose scale, Aspidiotus per-
. was next in importance to the white
its presence and injury was so wide-
nd and so fatal to the deciduous fruit in-
many localities. Great expense was in-
n combatting this scale with salt, limc
hur, kerosene emulsion and other rem-
a good many years. Persistent efforts
de to find the natural enemy of this scale
effort was finally crowned with success.
Jose scale is now in a satisfactory state
ction by parasites—the Aphelinus fusci-
hizobius lopantha, Chilicorus bivulnerus
ers.

vays So Successful.

ect parasite in onc locality is not neces-
perfect parasite for the same scale in
locality. As an illustration note the
they are having with the San Jose scale
astern States, notwithstanding the efforts
been made to introduce the parasites
The climatic or other conditions seem to
the perfect work that prevails here.
ct should teach us not to be too hasty in
ng that we have a parasite for other scale
s soon as a supposed new parasite has
troduced into our State. Every new para-
matter what its record or reported rec-
some other country has been, must neces-
be tried out here and should be given its
es and no more. We have too often had
es raised by premature reports of perfect
s being introduced that after trial proved
vail.

s with Apricot Scale.

apricot scale—Eulecanium armeniacum—
ver to my knowledge been known south
Tehachepi, but north of that has been a
pest. It is, however, now controlled by
asite, Comys fusca, which, like the parasite
San Jose scale, lays its eggs beneath the
These eggs hatch in the proper season
rvae which eats out the scale inside of its
r house; pupates there and later the per-
y emerges through a hole which it makes
outer covering of the scale.

The soft brown scale, Coccus hesperidum, is also kept in perfect check by its natural enemies—Chalcid flies and others.

Aspidiotus hederse, A., cameliae-rapax, which are common feeders upon oleander, English ivy, umbrella privet, pittisporum and other plants, and which are sometimes found on the orange and lemon fruit, and then called lemon peel scale, are quite well controlled by chalcid flies, Rhizobids and Chilicorus bivulnerus.

For the Black Scale.

Since 1893 we have had periodical reports that a parasite had been introduced that would keep in perfect check that widespread pest and life destroyer of fruit and other trees—the black scale—Saisettia oleae. It was about this time that Rhizobius ventralis and R. deblis and toowoombae or lopantha were acquired. These, with the aid of Tomocera californica and Chrysopa californica, did some splendid work along the Coast. Indeed, they made such a good showing that orchardists in the interior had great hopes that they would control the scale everywhere. Hundreds of thousands of them were colonized in every section of the southern orchards; but after repeated trials and after waiting for a number of years for them to be acclimated to our dryer and hotter interior climate, we were forced to give them up and again resort to fumigation and spraying to relieve the orchards.

In October of 1901 our hopes were again raised by the report that a new parasite had been discovered in South Africa, and that a lot of oleander cuttings were on the way to our State Commission. The cuttings arrived and the little fly, the Scutellista cyanea, was bred out, and after a little time colonies were liberated in Los Angeles county and later were distributed from there over all Southern California. They increased so rapidly that it was commonly thought that we had the right enemy for the black scale and that the pest was doomed.

In two years' time I saw in our own county orchards in which at least sixty of the black scale were parasetized in the month of August and I, with the rest, thought that our troubles with the black scale were at an end. The following April I looked for a colony, but could not find any of them. The same results had to be recorded for May. In June I could find a very few, as also in July. In the latter part of August they were very numerous again, but I looked farther this time and I found that while in some instances 60 per cent of the old scale were parasitized, still from 75 to 90 per cent of the young scale had hatched and were out on the leaves and limbs of the trees.

After close study of the situation for a year or two, I arrived at this conclusion: The Scutellista is an egg eater only, and as the black scale in the interior counties is practically all hatched out by the first of September of each year and do not commence laying eggs again until near the first of May, that the Scutellista starve out between September 1st and May 1st. I have, however, seen some good work done by the Scutellista along the Coast. In Ventura and Santa Barbara counties, within one or two miles of the ocean, the olive trees are the cleanest that I have seen and this result is accomplished by the Scutellista; but on one place I saw that the olive trees were clean, while just across a driveway the lemons were quite badly affected with the black scale. This desirable condition along the Coast may be, I think, attributed to the fact that the black scale has in some places more than one brood a year and that Lecanium hemisphericum, which is very plentiful there, breeds in the same way, and thus more of the Scutellista are carried over the winter and are ready to work on the first eggs laid by either the black or hemispherical scales in the spring.

At the present time the State Commission is trying to establish a body parasite for this pest and we continue to hope that the efforts in this line will finally be rewarded with success.

Yellow Scale.

The yellow scale, Chrysomphalus aurantii citrinus, was first known as the San Gabriel red scale, on account of its lighter shade of color. In fact, until very recently it was considered by the Department of Agriculture as a variation of the red scale. Its habits, however, are different, as the red scale infects the leaf, limb and fruit, but the yellow is seldom seen on the limb, but only on the leaf and fruit. For years this scale has been credited with having a parasite that would check it to the extent that it would no longer injure the orchards.

Individually I have had occasion to look up this scale very closely. It was introduced into a part of our county not infested with any other scale so that it could not be confounded with others. It was reported to the State Board, and Alexander Craw, with the State Commission, determined the species and sent colonies of Aspidiophagus citrinus, the supposed parasite. These were reinforced many times, and after thorough inspection I can say I never saw one-tenth of one per cent. of the scale that were parasitized, and I so reported to the State Commission. I was told that it was very queer, when they did so well elsewhere. Later I had opportunity to observe this scale elsewhere, and I found the scale very bad everywhere that artificial means were not taken to control it.

I once had several hundred leaves sent me from Los Angeles county so that I might breed out the parasites. These leaves were thickly covered on both sides with the scale (not a good indication of parasitic work) and I put them into breeding jars and cared for them for a month, but not a single parasite did I get.

During a trip to the northern part of this State I looked up the parasite there, and found very little, if any, evidence of their work, but there was plenty of yellow scale everywhere. I found them on the capitol grounds at Sacramento and on trees at Marysville, Yuba City and Oroville. So, I was forced to the conclusion that the Aspidiophagus citrinus was not to be relied on. The reputed parasite is a golden chalcid fly, whose method is like that of the Scutellista, i. e., wherever it works you will find the small round hole in the scale where it makes its exit.

For the Red Scale.

Somewhere about the year 1891 or 1892 Albert Koeble, who had been sent abroad by the State Board of Horticulture, sent among other parasites a steel blue ladybird—Orchus chalybeus—to prey upon the red scale, and these ladybirds were liberated in the Kerchoff orchard in Los Angeles; but after much time the decision was arrived at that they were not equal to the task. They are still to be seen occasionally in the Coast counties but not in sufficient numbers to do much good.

I have known the golden chalcid fly to eat a few red scale, but not enough to be entitled to the name of parasite, as they do not make any appreciable showing against the scale.

Continued on next page.

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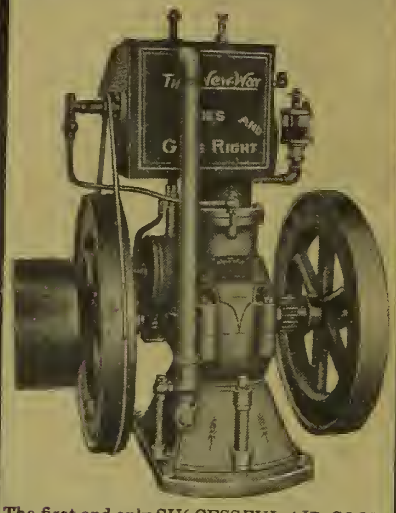

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1¼ "	2.24 "	5.65	6.90
1½ "	2.68 "	6.50	8.00
2 "	3.61 "	9.00	11.00
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Present Status of Parasitism

Continued from page 571.

Purple Scale.

For a number of years we have been told that one of the Rhizobids was preying upon the purple scale, Lepidosaphu beckii, viz., R. lopantha, but I venture to assert that a person untrained in this line would need to be told that they were working. Later, the State Commission of Horticulture received a new parasite for the red and purple scales and sent experts to breed them in the worst infested orchards, but after a lapse of considerable time, they apear to diminish in numbers rather than multiply, and we can place nothing to their credit.

Mealy bugs, Pseudococcus citri, bid fair to be a most serious trouble. They have a number of enemies, one of them, Cryptolemus montrouzieri, but their control of the insect is only partial and so not satisfactory.

Codling Moth.

The introduced parasite for the widespread enemy of the apple grower, the codling moth, Carpo capsa pomonella, is Caliephialtes messer. It works well in confinement when supplied with larvae or cocoons of the moth, but after a number of years' trial in the orchards has no friends to sound its praises.

Cutworms.

The cutworms Agrotis saucia and Peridroma saucia are periodical enemies and general feeders. The moths lay the eggs and later the cutworms emerge. These dark-colored moths may be seen flying in the twilight over the flowers and elsewhere. They usually lay their eggs in March and the worms appear in April. We are troubled with them sometimes once in two years, and sometimes only once in four years. There are two common enemies of this pest, one a large black beetle, Colosoma angulatium, which feeds upon the worms in both larvae and beetle stages. The other enemy is a Tachina fly, Froutina frenchii, which lays its eggs in the worm as it crawls; the eggs hatch out later when the worms are in the pupae stage and the maggot eats out the pupae and in turn pupates and comes out the fly again. I have known as high as ninety per cent. of the worms to be parasitized in this manner so that in the breeding jars I would get that percentage of the flies instead of the moths.

Our common feeders, the Chrysopa Californica and Chilicorus bivulnerus and others feed upon the mites and plant lice to quite an extent. Plant lice also have an enemy in the footless maggot, which devours them in large quantities.

Use Best Mechanical Methods.

To sum the question up, it will be seen by tbe foregoing that we have successful parasites for many of our insect foes, and that others are kept in check to a considerable extent. But, while this is a fact, we should not be too easily satisfied and allow the pests that are only partially controlled to continue to lower the value of our orchards; but we should use the best mechanical methods to control the pests until such a time as the State Commission can secure a parasite that after a thorough test proves itself capable of subduing those remaining.

In this connection I wish to call attention to the insectary which has been maintained in inadequate quarters at San Francisco by the State Commission of Horticulture. At the present time a new building is being erected at Sacramento for the express purpose of accommodating this branch of the work.

Too much cannot be said in commendation of our State Commission for the efforts they are making to acquire perfect parasites for all of our insect enemies.

Continue the Search.

Continuous search is being made all over the world to secure better parasites for some of the scale insects as well as additional ones for others. Comparatively little is known by most of our people of the difficulties to be overcome in this work. Sometimes it is difficult to get permission in some of the foreign countries to make the search. Then after the parasites have been located methods have to be devised to transfer them in good condition to San Francisco. Some of them have been sent on cuttings, some on infested trees, and sometimes they have been collected in tin boxes placed on ice, thus keeping the insects frozen until they arrive at their destination.

The next difficulty is food for them, and sometimes it happens that considerable effort must be made to secure this food in sufficient quantities and in such condition that it will keep until used.

The new building is planned for convenience in breeding and caring for these insects, and it is to be cared for by those eminently qualified for the work, both through experience and technical knowledge.

We may all rest assured that everything is being done by the State Commission and will continue to be done to advance this line of work for the benefit of the orchardists all over this, the greatest fruit growing State in the world.

"Them's My Sentiments."

In closing I will quote a sentnce that appeared in an article by T. H. Comstock in the American Naturalist for December, 1888.

"We hope that tbe time is near when the need of an insectary for entomological work will be as fully appreciated as is the necessity for a propagating house for the horticulturist or a conservatory for the botanist."

I will just add, "Them's my sentiments."

ROMANTIC BUT UNHEALTHY.

Poets have always loved to write verses about the quaintness of the old moss-grown roof. The old "moss-covered bucket that hung in the well" seemed to make the water cooler and sweeter. Painters have always loved to paint their pictures of the old homestead with the steep roof covered with moss,

The modern farmer demands the best he can get, for he prizes health and strength and comfort and long life more than picturesque decay and romantic prettiness. Nowadays, even the shingle-roof is disappearing before the competition of the better and more durable composition roofing. The "Rex Flintkote" roofing, advertised in our pages by the long-established and well-known firm of J. A. & W. Bird & Co,. Boston, Mass., is better than any "moss-grown roof" in the world, better looking to a modern man or woman, and better wearing than the now "moss-grown roof" was when it was new. It sheds water absolutely, turns wind perfectly, lasts for a generation, and is so fire-resistant that you can place a live coal on it and it won't burn. Prove this by sending for a sample to the manufacturers who will also send you a booklet which tells all about roofing.

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Continued from last week. Address by F. L. Palmer.

ıber that green manuring
ced successfully by a few
vers in Redlands years ago,
y Mr. James Mills, superin-
the Arlington Heights or-
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nonstrate the feasibility of
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an orange or lemon crop, I
e must certainly add nitrogen
other form. Perhaps an anal-
the matured cover crop may in-
sufficient quantity of nitrogen
for oranges or lemons, but we must remember that it is not in a form to be immediately available. We have turned under a mass of green vegetation which must first be decomposed, and its fertilizing elements changed into other forms by the action of the soil bacteria, before it becomes available to the tree as plant food.

It seems unfortunate that our winter cover crops mature so late in the season that when we turn under this mass of vegetation it is already so late that our trees cannot get the full benefit of it in time to help the setting of the new crop of fruit. Just at this time of the year our fruit trees need a suitable supply, though not an excessive supply, of available nitrogen; and in order to provide the available nitrogen, it has been the practice with many growers to drag down the growing cover crop, sow a nitrogenous fertilizer on top of it, and then plow under the green crop and the fertilizer together. For this purpose either tankage or dried blood will serve an excellent purpose, provided it is put into the ground early enough. It is very desirable for several reasons and from every point of view, that cover crops be plowed under early in the season, and no later than February; and I feel sure that the amount of benefit that may be derived from their use will depend very largely upon right management in this respect. If the plowing has been done early we may use a dressing of nitrate of soda a little later to good advantage, particularly if the spring weather is cold. We know that the processes of nitrification require a certain degree of warmth in the soil (Snyder says a temperature of 54 degrees to 99 degrees is the most favorable,) and it is well to keep this fact in mind when considering whether to use nitrate of soda in the early spring.

There is another aspect of the matter to be noted, which is that we should not go to extremes in supplying nitrogen. If it be supplied in excessive quantities, plants and trees use it very freely, and in the case of fruit trees we sometimes get bad results. The quality of the fruit may be injured in this way, of which we have often seen evidence in the orange. And, not only is this true, but if the excessive feeding occurs about blossoming time the growth of leaves and stems will be promoted at the expense of the fruit buds, which then develop imperfectly, resulting in a decreased, instead of an increased, fruitage of the tree.

Phosphoric Acid.

There are two other of the fertilizing elements which we must return to the soils in order to maintain their fertility, viz.: phosphoric acid and potash. Nitrogen, as we have seen, promotes the growth and sustains the vigor of the tree; phosphoric acid, it is believed, promotes a large yield of fruit. My idea is that in growing fruits we should supply phosphoric acid quite generously. But the form in which we will get the most benefit from it is a question more difficut to decide; and even scientific men after years of field experiments are not well agreed on the subject.

Soluble vs. Insoluble.

If we buy superphosphates, for example, we will get a large percentage of the phosphoric acid in a water solu-

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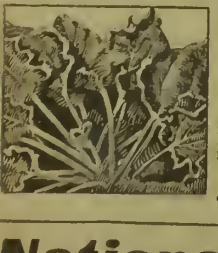

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ble form; if we buy Thomas phosphate powder we will get a high percentage of phosphoric acid with but very little of it in a soluble form, and if we buy untreated bonemeal we will have a material in which a medium percentage of the phosphoric acid is water soluble, but which is all ultimately available to the tree. These three materials, together with guano phosphate, are the phosphate materials we see the most of in California. fornia.

The advantages and the disadvantages of a soluble phosphate may be stated in this way: When soluble phosphoric acid becomes distributed in the soil a process of fixation rapidly takes place, the phosphoric acid uniting with the lime and other alkaline bases present in the soil. This process is what is commonly spoken of as "reversion." If there is plenty of lime in the soil the lime will be the first of these alkaline bases to get the acid, and the reverted phosphoric acid is then just as valuable as it was before, because in this form it is still available to the roots of trees. If, however, there is not much lime in the soil, but a good deal of iron and alumina, these bases will get the acid, which, particularly in the case of iron, would pretty effectually lock it up, and it is in this respect that possible loss of phosphoric acid takes place. You will notice, then, that there is little danger of loss by leaching because the phosphoric acid, by the process of combination, becomes fixed in the soil, and the only loss is in cases where the soil may be very deficient in lime and very rich in iron. Soils of this character are, I think, quite common in Southern California. My understanding is that our soils are, as a rule, rich in lime, and, therefore, we may use phosphates freely in any form without having the phosphoric acid either washed out of the soil or locked up by combination with an iron base.

"But if the soluble phosphate is quickly converted into an insoluble form, it may well be asked what has been gained by all the trouble and expense of converting the insoluble phosphate into a soluble form?" This question is raised in a bulletin of the West Virginia Experiment Station, and the answer is so admirably stated that, although I have quoted it more than once, I think it will bear repetition. The author says the chief advantage is a matter of "distribution." "When the soluble phosphate is applied to the soil it quickly passes into solution, and, as the soil water is never at rest, the phosphate solution soaks through the soil in every direction, bathing every little particle of sand and silt and clay, and gradually being deposited among them as the necessary lime is found. These deposited or precipitated particles are extremely minute, and so expose an immense amount of surface to the action of the soil water."

Then, after speaking of untreated rock and untreated bone, Prof. Hite, the writer of this bulletin says: "The greatest disadvantage of such materials is that when applied to the soil they remain where they fall. They may be scratched about more or less by the harrow or the hoe, but even if the field could be shoveled over or run through the most improved disintegrator and mixer the best that could be hoped for would be a comparatively inert particle here and there. The case is altogether different when the soluble phosphate is used, for the deposited particles are not onl
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within easy reach of the roo

It seems to me there is an
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So much for soluble phosph
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One other thing ought
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do harm. If used on plants
sufficient supply of nitrogen
it sometimes has a burning
I have known orange trees
similar harm which appar
caused in this way.

The Use of Simples.

We have seen that both
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Perhaps the strongest ar
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It is more economical to b
"simples" than to buy compl
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in so doing we certainly hould
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I think a good plan is to decide
a ration that we think suited t
requirements for a given season,
then adhere to that ration during
fertilizing period of the year.
example, barnyard manure su
mented with bonemeal is an exce
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much in favor, is the applicatio
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some of the orchards, results
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of the important questions to
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Another is the problem of in-
ng quality of crop by means of
ation.

ive Culture.

have been considering the
on of maintaining the fertility
soil. Let us go a step further.
is the chief object the orchard-
s in view? Is it not to produce
crops of fruit of the finest and
ualit? Does not this imply in-
e culture? We might grow
and healthy trees, of ordinary
ctiveness, by simply maintaining the original fertility of the soil, but to cause these trees to produce yearly crops of fruit which shall be of maximum quantity and of the best quality, may involve far more generous fertilization than we have ever practiced in California.

There is nothing alarming about this. In Florida experiments have been made of increasing the applications of commercial fertilizers for bearing orange trees year by year, and it is claimed that up to eighty pounds of commercial fertilizer to the tree was used with ever increasing profit.

"Room at the Top."

And can we not influence quality of crop by means of fertilization? Proper and improper pruning will influence quality; proper and improper irrigation will influence quality, and so I think we may confidently believe that we may improve the quality of our fruit by fertilization. Not, indeed, by the use of any nostrums nor secret formulas, but in a purely scientific way. Science has not exhausted herself. Science as applied to horticulture, is only in its infancy, and its possibilities are beyond our ken.

As production increases, the question of profitable fruit raising may become more and more serious, but of one thing we may be certain, there will always be a demand for the best fruit. "There will always be room at the top." Our conditions for successful fruit culture are of the very best. We live in the best country under the sun; we have the best climate under the sun; we have the best people under the sun; and we shall fall short of our high privilege if we fail to produce the best fruit under the sun.

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, Los Angeles.

THE OREGON CHERRY FAIR.

The annual Chery Fair at Salem, Oregon, is being looked forward to by the fruit growers of Oregon and the entire Pacific Coast with keen interest. Indeed, fruit experts in all parts of the continent are watching this event, as it stands for the best exhibition of the best cherries grown anywhere in the world.

Although the date has not yet been fixed for this fair in Salem, it is safe to say that it will be held in July, as last year's date was July 10, 11 and 12. There is now every reason to believe that a large crop is in store for the cherry growers of the State for this season, as they have bloomed bountifully and, as far as can be learned, they fully fertilized and a large crop of fruit has set.

A PRONOUNCED SUCCESS.

One of the successful houses of California, which has been made so by the push and honest business methods, is that of the West Coast Stock Food Co. It has put up honest goods at a reasonable price. This has compelled the enlargement of the factory, about which Mr. Tompkins, the manager, recently said:

"We have the foundation in for our new mill and warehouse, corner Alhambra and Griffin Ave. We are building a two-story brick, 50x100 and over, and a galvanized iron warehouse, 35x100, which will give us 14,000 feet of floor space, much more than we now have, and what we are now using is more than double what we started with a little over two years ago. This trade has been built up by making good, honest goods at reasonable prices, especially West Coast Chick Feed and Egg-More. We buy all materials in large quantities for cash, and while our present mill has been quite efficient, we are putting several larger and better machines in our new mill, and as it is right on a railway, you will see that we are going to be well equipped for the business."

$10 a day may be earned by a man using our machinery. Some earn more. FULL LINE for prospecting for water, coal, mineral, oil, etc. Any DEPTH, any DIAMETER. PUMPS also. Free catalogue.

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S U S U S U S U S U S U S U S U

DON'T THROW MONEY TO THE PIGS

The mine owner gets his gold mixed with rock and combined with other metals. He gets out all the gold and then makes in addition what he can from the lead and silver, the "by-products."

The dairyman's gold is cream; the skim-milk his principal "by-product." To get all the profit he must use an

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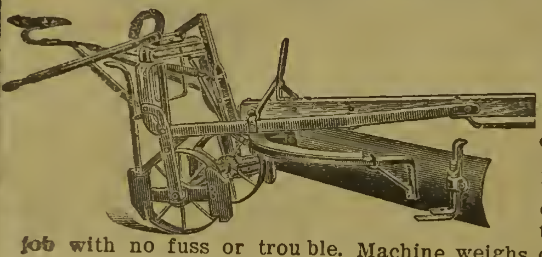

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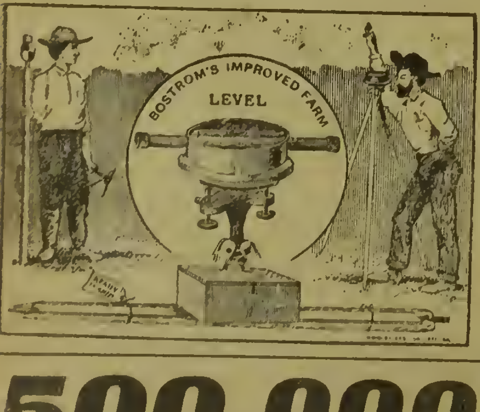

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Irrigation and Forest

GROUND WATERS IN SAN JOAQUIN VALLEY.

Ground water work in the arid West often bears a most intimate relation to the prosperity or even the very existence of the communities affected. In regions where the annual rainfall is 10 inches or less, so that agriculture and horticulture can be carried on only by means of irrigation, the problem of water supply, whether that supply be surface or underground, is a matter of commercial life or death for the particular community concerned. In those parts of the arid West that are best known and most thickly settled, the available supply of surface waters has, as a rule, been long since preempted, and during a decade or more hydraulic engineers have turned their attention to underground sources as those most likely to provide an increased water product and consequently growth in population and prosperity.

The great San Joaquin Valley of south-central California, embracing approximately 12,000 square miles, is one of these areas whose surface waters are fully utilized and whose engineers are considering the possibility of developing surface water in order that the great agricultural industries now thriving may be properly sustained and encouraged. Recent investigations by the United States Geological Survey lead to the conclusion that this great valley is peculiarly favored in the quantity, quality, and accessibility of its ground waters. They have been utilized to some extent in some areas, notably about Stockton and in the vicinity of Corcoran. In the neighborhood of Stockton hundreds of windmills, many of them home made and of crude construction, are utilized to pump ground waters to be applied to the irrigation of small but intensively cultivated garden tracts. Recently pumping plants have been introduced, and these generally of small capacity, but their increased use in the future is assured by their reliability as compared with a device that can be operated only during favorable winds of sufficient strength.

Corcoran, which is a colony established by enterprising men from the southern part of the State, is located in the center of the great artesian area that occupies the trough of the valley, and its existence from the very beginning has been conjoined with development and utilization of the ground waters. Wells in this region are from 500 to 1500 feet deep and yield waters that rise to the surface in considerable volume. The practicability of the use of ground waters for all agricultural purposes in this region has been proved by the success of the business enterprises dependent upon them. Other colonies have been established farther south in the valley, which likewise depend upon artesian or pumped waters, but they have not yet reached the advanced stage of development that distinguishes the colony at Corcoran.

THE KNACK OF SAVING WATER.

This is the year in which it will be necessary to save every drop of water that may come down the ditch. The quantity of water which plants use is but a small part of that diverted from streams for irrigation purposes. Large volumes are lost by absorption and seepage in the earthen channels of canal systems. losses occur in the ditches supply farms and a large part remainder is wasted in ir crops. The farmer is chief cerned in lessening the w water in his supply ditch and farm. In localities where w likely to be scarce, the suppl should be made water tight by the channel with cement or cement plaster, asphalt, heavy oil or clay puddle. Flumes or may also be used as a subst an earthen ditch.

One of the most common sou loss of water is poor preparat the surface. When the so gated by flooding from field an uneven surface causes waste of water, extra labor ing it and smaller yields. Th flows into the low places w ceive too much and may waterlogged while the high left without water and thereon is dwarfted. The tween field laterals sho evenly graded that water w a thin sheet over the entir the excess being caught lower lateral.

Another common cause of the lack of attendance. W often turned onto a field a mitted to run without atten hours and even days. On farms the irrigators look af water for ten hours and tur for the remainder of the d der this practice the low pa ceive too much, the high pl or none and a large part flows field to the injury of the rea adjoining farms.—Denver Fie Farm.

A VALUABLE TREE.

A visitor at the Cultivator o suggested that a tree little pl this State, which should be of value is the Jarrah or Eu marginata. This tree grows to size, is slender and straight. Australia one of the best for t piles, and is of great comme portance.

But we note in the Cultivator that at the station at Santa "the specimens grew ex slowly, finally perishing fro So far as experience there where in Southern Californi species is worthless for plan This is to be regretted, for if the ber is as represented, and the no reason to doubt it, all that be grown here would find a ready ket when mature, for piling, r ties and other uses under water ground. It would be interestin test the Jarrah in a moister lo Possibly it might do better there."

That was nearly ten years ago. any one more recent information.

RAINFALL ESTIMATE.

An acre contains 6,272,640 squ inches of surface, and an inch of r means, therefore, the same number cubic inches of water. A gallon c tains 277.27 cubic inches of water, an inch of rainfall means 22,622 ions of water to the acre, as a lon of water weighs ten pounds, rainfall of an acre is 226,220 poun

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The Vegetable Garden

ENRICHING GARDEN SOILS.

Pure clay comes from the decay of what is known as feldspathic rock. The rocks are composed of silica and alumina and in which generally potash, soda or lime are present. However, average clay not said to be pure clay may be the result of the decay of those rocks known in geology as crystalline rocks; that is, those whose structure is such that they do not contain any organic matter. As to improving clay soil we need but note the materials in which the clay is deficient, and if those can be supplied, we have solved the problem of improvement. If clay is the result of the decay of rocks that contain no organic matter and if a productive soil is the result of proper union of organic matter and decayed rocks then we can logically conclude that to make clay soils productive organic matter must be added. But of what should the organic materials consist? Should they be added fresh or well decayed? Should they be applied on top the surface or should they be plowed under? What other attention may the farmer give the clay in connection with the application of organic matter to make it a productive seedbed? These are questions that always arise in the minds of the farmers.

Add Organic Matter.

Anything that will add organic matter to the soil will improve clay soils, consequently barnyard manures, coarse straw, the plowing under of legumes or any green crops that will improve the mechanical condition, will also add humus and, consequently, will increase the supply of nitrogen in the soil. Of course, barnyard manure is the best as well as, usually, the nearest material at hand for the average farmer to apply to his soil. Farm yard manure, besides adding organic matter or humus, contains a great deal of plant food which is also given to the soil when the manure is applied. In this connection the question is often asked what kind of manure is best adapted to the needs of the clay soil.

Best for Clay.

Scientists tell us that horse, sheep and hen manure are best for clay soils for several reasons, two of which may be given as follows:

First, they are dry and "hot" or heating manures and, since clay is usually wet, and "cold," these manures have a tendency to absorb the surplus moisture and increase the temperature. Second, they contain a great deal of nitrogen, the very element in which clay as a rule is lacking. By being sure that the urine of the horse is saved the amount of nitrogen is greatly increased.

Apply Fresh.

Experiments show that the manure should be applied to clay soils fresh, because fresh manures contain more nitrogen than well rotted manures. Then in the decay of the manure mineral elements in the clay are acted upon and made soluble for the needs of the plants that are to grow thereafter upon the soil. We are told that the decay of any organic matter creates a material known as carbolic acid. This has power to act upon the potash and other minerals contained in the soil and make them ready for the plants' use. In this way if the manure is fresh it not only gives nitrogen to the soil but in its decay it renders the unavailable mineral elements ready for the use of the crops to follow. If the manure is well rotted it usually does not contain its full amount of nitrogen and then in not undergoing its first stages of decay in the soil the mineral elements are not decomposed.—Journal of Agriculture.

ONIONS GROWN FROM SEED.

Onions will do well in almost any garden soil that has been kept free from weeds and grass. The soil can be made fine and loose by deep spading, and as it is impossible to get the soil too rich, both stable manure and commercial fertilizer high in nitrogen may be applied. This is not done, however, until about two weeks before planting. Use it in the drill at the rate from one to two thousand pounds an acre.

Make the rows from one to two and one-half feet apart and sow the seed at the rate of from five to seven pounds per acre; a seed drill will do the work faster and more evenly than by hand. Cover the seed with one-fourth to one-half inch of soil, which, if dry, at the time, must be pressed down firmly to insure good and quick germination.

Commence cultivation as soon as the plants are well up and stir the soil between the rows every two weeks, and oftener if necessary, to keep it fine and loose and to prevent weeds from getting a foothold. When the plants have attained the size of a large broom straw, thin out to one plant every four or six inches. Nitrate of soda, applied at the rate of 150 pounds to the acre, will hasten their growth and greatly increase their yield. When the plants begin to make bulbs early in the summer remove the soil from around them (so that one-half, or more, of the bulb is exposed) to increase their size.

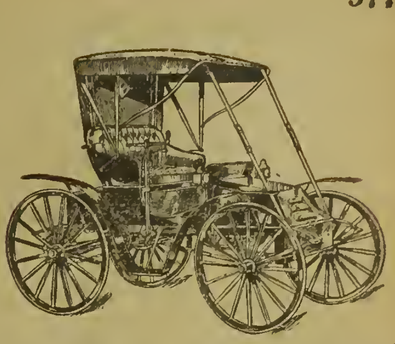
When the tops die down, the onions are ready for pulling up. After this, if there is no danger of rain, leave them in the sun a day or two to dry. Store in a cool, dry place.—Garden Magazine.

A FINE, FIRM SEED BED.

All crops need a fine but firm seed bed. This is particularly true of corn, potatoes and barley. The soil should be fined to the depth of several inches and later firmed by harrowing, etc. There is only one time that you can cultivate right under a stalk of barley, corn, or potatoes, and that is before it is planted. There is where the plant first lives in the soil in contact with roots. Small fine feeding roots can not get plant food out of lumps of earth. They must have fine soil to do their best.

Choose some place where you can have a hammock; make some rustic seats, and if you have small children, furnish them with a swing. Let them have a picnic some of the pleasant days, by taking what they were to have at the table, outdoors, under some shady tree. They will think it fine fun.

It is the green-clad yard, with attractive flowers, trees laden with fruits and vegetables, that make the sons and daughters cling to home, and parents.



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CONSERVATION.

President Roosevelt is nothing if not original and resourceful. The Governors' Conference is only another proof of that. The advantages of such a conference were not at first seen by the mass of the people and perhaps not fully appreciated by any of us yet. We believe time only will show us this. Regarding the object of the conference, the president said:

"This conference on the conservation of natural resources is in effect a meeting of the representatives of all the people of the United States called to consider the weightiest problem now before the nation, and the occassion for the meeting lies in the fact that the natural resources of our country are in danger of exhaustion if we permit the old wasteful methods of exploiting them longer to continue."

To most of us on the Western edge, the conservation of our water and our forests is all important and fully appreciated by us, but this conference has plainly shown that a vast number of our natural resources must be cared for or loss and suffering will surely follow.

"Finally, let us remember that the conservation of our natural resources, though the gravest problem today, is yet but part of another and greater problem to which this nation is not yet awake, but to which it will awaken in time, and with which it must hereafter grapple if it is to live—the problem of national efficiency, the patriotic duty of insuring the safety and continuance of the nation. When the people of the United States consciously undertake to raise themselves as citizens, and the nation and the States in their several spheres, to the highest pitch of excellence in private, State and national life, and to do this because it is the first of all the duties of true patriotism, then and not till then the future of this nation, in quality and in time, will be assured."

IRRIGATION—DRY FARMING.

The unfortunate distribution of this season's rainfall will give impetus to both irrigation and to arid farming. Many sections of the Sacramento valley where the vast wealth of water is allowed to escape each season to the ocean are considering methods of conserving and distributing the water. Such a season as this will give zest to such considerations and cause an earlier bringing about of those great movements which are continually increasing California's wealth.

On the other hand, many sections in California where it is not possible to secure the aid of irrigation, are studying more and more the benefits of "dry farming." That is, how may the soil be so handled as to conserve every drop of rainfall and make it come forth months later in bountiful crops.

The Cultivator recently referred to an example in San Fernando valley where a crop of barley five feet tall had been grown without a drop of irrigation. Other sections have done equally as well and all cause the careless farmer, or one who has not studied into the question, to ask: "Well, how do they do it?" Those who are accomplishing these results think nothing on earth is simpler. It is simply through preparation of the soil to receive every drop of rainfall, thorough packing of the subsoil and the maintenance of a dust mulch to prevent the loss of any of the moisture. As some have expressed it it is the farming of the entire crop before the seed is planted.

If this season will teach the two lessons of greater care in conserving and holding the moisture in the soil, and the saving the floods for summer irrigation, it will be a great lesson for California.

COMMUNITY BREEDING.

We note in a Utah exchange that that State is becoming noted for some of the finest Percheron horses in this country. It has been advised there that all other breeds of draft horses be eliminated, and that all breeders of the State center on that one particular animal. If this be done, in time—and not a long one, either—the State will be noted for the fine horses of that breed and a market will be created which will attract buyers with a long purse.

California conditions are so diverse that she may not, perhaps, as a State take up any one line of breeding, but if various communities would take the lesson which Utah is learning, and some other western communities as well, a business would be built up which would prove exceedingly profitable. When the government wishes a big bunch of army mules, the one place they are sought is Missouri. Kansas is rapidly securing the name for the finest hogs in the world. Some sections of the north middle-west are becoming equally well noted for high-grade dairy cows. Some sections in the central part of this State are becoming known as breeders of exceptionally fine short-horn or Holstein cattle.

If a large buyer wishes a particular article, he is far more inclined to go to a large center of production than he is to go here and there over a great scope of territory seeing a single breeder, thence to another town to find another in the same line. The lesson to the California farmer should be obvious.

SELL ONLY THE BEST.

We have little patience with the plan which some farmers have had of giving to their own families culls or undesirable products of the farm and sending all of the good to market. Neither have we patience with the farmer who lowers the tone of the market and injures his neighbors by sending undesirable fruits to be disposed of. Often stuff is sent to the fruit stands, or to the peddlers' wagons which should never be allowed to leave the ranch. It would have made a good marketable product if changed into pork or fed to some animal which would have made it a first class product; or, again, it might have been worked up into high grade products such as marmalade, vinegar, fruit juices or other first class articles which would have commanded good prices.

Some poultrymen will at this season put in cold storage fresh eggs which they will take out a few months later when prices have doubl and indiscriminately mix the cold storage wi fresh ranch and work them all off as a strict fresh article. We were once on a ranch at whi this was being done, the farmer having stored h eggs several months before. As he would dri to market with one case he would return anoth from the storage and the next day take a case more which he would sell as strictly fresh s oc This dishonesty will, in time, affect him as we as all of his neighbors who may possibly b e gaged in shipping only the freshest stock

Orange-gorwers have learned this lesson a higher grade of fruit is being forwarded ha ever before. It is proving so profitable that w presume this movement will grow and that th grade of oranges and lemons will be made co tinually higher.

Let other products follow suit.

SULPHUR MAY BE USED.

In response to the demands of the fruit men of California, a commission wa pointed to inquire more fully into the q of the injurious effects of sulphur in dryin This commission will not make any inqu the matter for the next eighteen months, practically means not at all. Prof. Wile dently stirred up a hornet's nest when he his edict against the use of sulphur in fru ing, which, if carried out, would have mean destruction of an important industry in C nia. Our people have protested against th of Prof. Wiley, and have protested with good effect that the matter has been lef for a year and a half, by which time it w forgotten, and sulphur will be used as her in the preparation of dried fruit for the m

If sulphur is really detrimental, as W claims, then it should be prohibited, b should not be on the barren assertion of an man, even if he be a scientist, and the fruit ers of California have arisen and demande they be heard in the defense. Sulphur, as in the preparation of dried fruit in this S rather beneficial than detrimental, as there small a portion of it left in the fruit that not possibly do injury, while in the destr of insect life and the prescrvation of the fr is of absolute benefit.

LEGISLATIVE COMMITTEE.

Hon. J. W. Jeffrey, State Commission Horticulture, has appointed the following L tive Committee authorized by resolution a State Fruit Growers' Convention held at Ma ville, California, requesting the State Com sioner to name a committee to assist in re ing the horticulture laws of the State and adv before the Legislature the enactment or ment of such measures as may be necessar A G. Kendall, Sec'y Citrus Protective Leagu 829 H. W. Hellman Building, Los Ang James Mills, Sup't Arlington Heights Ra erside, Cal.; D. G. Overall, Fruit Grower, Cal.; Arthur Briggs, Pres't Board of Trad Francisco, Cal.; Peter J. Shields, Judge Su Court, Sacramento, Cal.

Mr. Kendall has been authorized to a Temporary Chairman of the Committee and s have been taken to secure a meeting of the C mittee early in June at Sacramento.

GROW THEM AT HOME.

We note in an estimate of the impor this country of tropical and subtropical prod that those items take from this country app mately $600,000,000. Nearly half of this immen sum went for cane sugar. Walnuts, almond ar many fruits which may possibly be grown this country were also strong factors in makin up the totals.

Producers of California and other sectio where subtropical fruits may be grown, shou take a lesson from these immense figures and d termine, so far as possible, to aid in producin crops which will keep that sum within our ov pocket books.

It is pleasing at last, says Field and Farm, assure the public that the fool fake represent by the Spencer seedless apple has finally wo itself out. It was a struggle to put down t fraud, but like all other things of similar sort has had its day. It has virtually dug its ov grave for the scheme is dead beyond recall

ricultural Notes of the Pacific Coast

thern California

s about Chico will be rather
at best only a fair crop.

Rosa held its first rose car-
e the earthquake, May 15th

housand sheep are being
from Red Bluff to British

m shipped eight cars of eat-
Montague to San Francisco

tire Sacramento Valley will
largest crop of pears for
rs.

at Chico will be a good
apricots will not be as
desired.

will have 2000 people busy
e months of June and July
apricots.

l improvements in the irri-
stems about Woodland are
ntemplation.

cars of material for improve-
the State Farm at Davis
ntly received.

is less apparent in the Sac-
valley pears this year than
as three years.

ntral Creamery of North
is now making two and a
of butter daily.

et Sugar Company at Hamil-
n to give a big barbecue to
s in the beet fields.

cretary of the Interior has
the bid of a contractor on
f the Klamath irrigation pro-
rk will begin soon.

acramento Valley Develop-
ociation is planning to make
hibit of its products at the
' meeting at Des Moines, Ia.

men about Red Bluff are
ng about the quantity of red
essary to secure pasturing
or their sheep in the forest

n the Moore dam near Davis
completed and the Yolo Con-
Water Company has com-
o supply those who wish to

s will produce this season
to 80 cars of dried fruit and
0 cars will be sold green,
canneries or for Eastern

onoma County Co-operative
Association now has a regu-
t in San Francisco, looking
disposal of the product of
county hens.

rowers in the neighborhood
are complaining that Los
fruit buyers erase labels of
to Valley fruit shippers and
own labels.

gh search in the orange or-
Butte county have failed to
ny new colonies of the White
was at one time feared that
rom Oroville or Marysville
y have been scattered col-
other sections.

tes by the fruit growers at
indicate that with continu-
conditions of the weather
l varieties of fruit will give
st crop ever of that section.
especially true of almonds,
dicate an exceptional yield.

Central California

Apricots are being thinned in the Pajaro valley.

Watsonville forwarded its first cherries on May 8th.

Some apricots are cracking badly around Watsonville.

Apricot thinning has been finished in the Pajaro valley.

It is safe to say that prices for hay will run high during the coming season.

The Sanger winery has increased its storage capacity by 250,000 additional gallons.

Modesto irrigation district has taken great strides forward within the last few years.

Experts of the Department of Agriculture have just concluded a soil survey at Oakdale.

Many orchardists at Turlock report extremely heavy setting of practically all varieties of fruit.

The Kings County Fruit Growers' Association recently held an interesting meeting at Lemoore.

A limited planting of walnut trees has been made during the past planting season in Tulare county.

The last rain gave Tulare county an inch precipitation and will help greatly in maturing the hay crop.

Strawberry culture is becoming quite popular near Bakersfield and some profitable plantations have been made.

The State Game Commission reports that 250 lions have been killed in this State within the last six months.

One apricot grower near Bakersfield reports that he expects to have 75 tons of apricots from 700 thrifty trees this season.

The Central California Produce Company of Turlock now has a regular representative in the San Francisco market.

A Tulare hunter has pulled down a $20 bounty for killing a mountain lion in the mountains in the eastern edge of Tulare county.

Spraying with the Bordeaux mixture has been so general in Watsonville apple orchards that the scab is almost unknown up to this time.

The Ladies' Forest and Song Bird Protective Association of San Jose is taking active steps to protect the forest trees of the Big Sugar Basin.

Orchards in the Pajaro valley have shown such a heavy drop that some, especially of the Newton Pippin and Bellefleur varieties, will have a much lighter crop than desired.

Kern County Producers & Exchange Association met recently and discussed matters of co-operation amongst the farmers, and also scientific methods of soil culture.

The levees built along the banks of the Kings river have not been tested by storms this year, which is the first season in some time in which there has been no concern regarding breaking of the levees.

Sugar beet farmers in Salinas valley are much concerned over myriads of bugs that feed upon the plants as soon as they come through the ground. Efforts will be made to study into the life and habits of the bug and find out how to control it.

Southern California

Whittier is to have a flower show.

A big sugar factory is now assured for the Imperial valley.

Planting of eucalyptus is quite extensive in Ventura county.

Extracting of new honey in some sections has already begun.

Farmers near Whittier report fine outlook for grain and hay crop.

Most interesting farmers' institute was held at Highlands last week.

El Centro creamery is now sending out 1000 pounds of butter per day.

El Centro is making experiments in the effort to locate an artesian water belt.

Pomona fruit growers estimate a fair crop of apricots in that section this season.

Farmers in Imperial Valley are making an effort to establish a mutual telephone system.

The cantaloupe crop of the Imperial valley this season is said to be worth fully $1,000,000.

Much interest is manifested in the planting of oranges all over Southern California this season.

California Development Company plans for the expenditure of $1,000,000 in Imperial valley this season.

Cabbage are still in the dumps and many carloads at Fullerton have been held awaiting a better market.

The Waters cannery at Pomona is planning for a big pack of apricots, peaches and tomatoes this year.

The pre-cooling plant built at Highlands for cooling oranges before shipping has proven an entire success.

The newest townsite in Imperial Valley is "Meloland." We assume from this name that it is a melon section.

The lemon orchards near Colegrove containing over 30,000 trees have been treated to a thorough fumigation during the last few eeks.

The last storm brought to the foothills back of San Bernardino a precipitation of 1.85 inches. This made a total in that district of 34.4.

Fruit growers at Plancentia have organized a Growers' Protective Association and propose to protect their property.

The output of honey will be short of the average this year on account of scarcity of late rains. Last year's output of Southern California was 275 carloads.

Promise for a walnut crop in Southern California is now of the best. The season has been exceptionally favorable so that there is but very little blight.

"Eternal vigilance with rigidly enforced quarantine laws is the price of the immunity from scale pests" is the verdict of S. A. Pease, Horticultural Commissioner, at San Bernardino.

The Gold Buckle Orange Association recently organized at East Highlands is prepared to engage in the handling of the members' fruit; $65,000 of its capital has already been subscribed.

Southern California ships about 500 cars of cauliflower between November and April of each year, 1000 carloads of early cabbages, 1000 carloads of Bermuda onions and several cars of a day of tomatoes between the months of October and February.

The Coast

Alfalfa in Colorado has been somewhat injured by the winter freezes.

Indications are excellent for big yield of hops in Lane county, Oregon.

The Oregon Cherry Fair will be held at Salem, Oregon, beginning July 10th.

More than $5000 will pe paid to Lewiston Clark orchardists for the coming year.

Corvalis had a live stock show at which there was a large attendance last week.

Spokane sometimes received as high as three cars of California oranges in one day.

Smudging has proved effectual with growers in Colorado and saved many crops this year.

Colorado interstate fair and exposition will be held at Denver, September 7th to 12th.

A Pittsburg syndicate has acquired and will parcel out 10,000 acres of land near Kiona, Washington.

Preparations are going forward for the eastern Oregon district fair to be held at Pendleton in September.

A farmer at Colfax, Washington, has found success in killing coyotes with bisulphide of carbon placed in their holes.

It has been found that wolves are killing and reducing the herd of buffalo near Westminster, British Columbia.

The rainfall has been so light in Colorado that dry farmers question as to the advisability of putting in many crops.

A botanical garden is to be a feature on a large ranch west of Denver. It is claimed that it will rival any in this country.

Two thousand acres of dry land along the Columbia river are to be supplied with water raised by means of gasoline engines.

Producers of Arizona have appointed a committee to labor with the managers of railroads to secure more favorable shipping rates.

Tillamook county, Oregon, is proving to be a fine field for dairying. Of cheese alone there was produced last year nearly a half a million dollars.

Fruit men of Walla Walla county, Washington, are advocating a law compelling the spraying of fruit trees, which should be done before April 10th.

Utah wool growers have decided to store and hold wool until better prices are offered. It has already proven a stimulus to the wool market in that section.

Portland rose festival will be held in the city of Portland June 1st to 6th, at which time "roses fragrant, roses rare, roses, roses, everywhere" will be the slogan.

A mutual company owning some fine live stock at Davenport, Washington, recently met with the loss of their famous black stallion, Rosenburg, which cost the company $8000.

The following are the officers recently elected of the Idaho State Horticultural Society: President, Judge Fremont Wood, Boise; vice-president, Prof. J. R. Shinn, Moscow; secretary-treasurer, F. E. Price, Payette; directors, Captain J. H. Shawhan, Payette, and Carl A. Davis, Mountain Home.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:

"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

The Jubilee Incubator

Has proven a winner. Ask the colonists who are using them.

Coulson's Special Chick Food and Egg Food
always in stock.

Poultry and Stock Foods. Sole agents for International Stock and Poultry Foods, Kow Kure, Coulson's Egg Food, Darling's Beef Scraps, Chamberlain's Chick Food.

Seeds, Plants and Bulbs
Write for our 1908 Catalogue

GERMAIN SEED COMPANY
326-330 S. Main St. Los Angeles, Cal.

Little Chicks should be fed on **Excelsior Chick Food**

prepared from clean, sound grains, seeds, beef scraps and charcoal in proportions to make a well balanced ration and produce strong, healthy chicks and keep them continually growing. For sale by all dealers and grocers. Take no other.

Excelsior Cereal Milling Company
242 Central Ave., Los Angeles

Mammoth Bronze Turkeys---S. C. White Leghorns

From our large, vigorous White Leghorns, the largest eggs produced by any Leghorn breeder in the West. $1.50 for 15, $7.00 for 100 and $60 for 1000.

To make room for young stock we must dispose of a large number of this year's breeding birds. They are two years old and the pick of our flock and must be sold by May 1st. Write us your needs. The price is right.

STUHR-WILLIAMSON POULTRY COMPANY
378 Bandini Ave. Home Phone 1490 Riverside, Cal.

Black Langshans Well, we won again at Los Angeles. Two firsts, one second, one third on five birds shown. Best stock ever in show room in California. Eggs, $2.00 to $5.00 per 13, $10.00 to $20.00 per 100.

White Rocks Large and vigorous. Improve your stock with a setting or get a fine flock with an incubator lot. Eggs, $1.50 to $2.50 per 13, $8.00 to $12.00 per 100.

S. C. White Leghorns Order eggs now, we have plenty of them. Have had all winter, great big white ones. Eggs, $1.00 to $2.00 per 13, $6.00 to $10.00 per 100.

Phone East 915 **Foster's Poultry Yards, 128 W. Avenue 41, Los Angeles**

Trap-Nested White Wyandottes

That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen, contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribbons, all at Los Angeles County Poultry Association Show, December 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah. Hens and Pullets, $15 and $20 per dozen.

MISSION VIEW POULTRY RANCH, MRS. C. D. HUBBARD, SAN FERNANDO, CAL.

Profit in the Poultry Ya

We solicit short articles of a practical nature from the fancier and breeder, giving their experience with poultry. All inquiries pertaining management, disease and its prevention will be answered through these c

TO THE HEN.

Oh, feathered queen, thou precious hen,
The greatest fowl in all the nation,
Accept this verse of admiration,
Thou best of boons to many men.

Although deep science may conceive
To imitate their incubation,
The sorry time will ne'er arrive
When hens are lacking occupation.
—Agricultural Advertising.

LEGHORNS.

THE Leghorn fowl is, perhaps, more popular in California than any breed of fowls recognized by the American standard of perfection. In fact, taking the report of 124 shows held last season, whose secretaries reported to the American Poultry Association, the number of Leghorns exhibited stood third, only being out numbered by the Plymouth Rocks and Wyandottes. These 124 shows represent all sections of the United States and Canada.

But we believe if we could get a correct list of all fowls bred in California we would find that the Leghorn headed the list.

Of the Leghorn family there is recognized in the Standard eight varieties comprising the Single and Rose Comb Brown; Single and Rose Comb White; Single and Rose Comb Buff; Single Comb Black and Silver Duckwing. Of these eight varieties the White is the most popular, perhaps there are more White Leghorns bred today in California than all other Leghorns.

History.

So far as we are able to learn there is no authentic information obtainable as to the origin of the Leghorn fowl, as it is bred today. About the only information pertaining to its early history that we can get is, that they were the common fowl of Italy. A suggestion has been made that it is the old Roman fowl, but the suggestion has never lagged long enough to be considered. When the Leghorn was first imported it was commonly stated that they were produced by crossing a black-red game with a White Minorca, but beyond this nothing can be learned that can be relied upon.. The first importations to this country were the Whites, Browns and Blacks.

The Leghorn of Italy is not the non-sitter our Leghorn is today, for fully 20 per cent of them become broody, which is enough to continue the race.

Economic Qualities.

The qualities of the Leghorn are too well known for us to enter into very deeply, yet we cannot pass the subject without a word in regard to their economic values. The Leghorn is considered one of our best layers and many strains lay the largest eggs of any of our domestic fowls.

The Leghorn is also a good forager and will do as well under indifferent conditions as any fowl we have today. This is one of the chief reasons for its popularity.

We have heard Leghorn breeders say that they could grow more meat in six or eight weeks with Leghorns than with any fowl. This we can neither affirm or deny, but we know that they make a very rapid growth and are very vigorous under conditions.

Size and Type.

Size and type are two p should not be overloo the Leghorn was given u yet the Leghorn as we our shows is truly an Am duction. Not even do the breed them with that syn style and finish that we do left to the American fanc out and give the finishing this popular breed.

We believe when it co the White have the adva the other varieties. This due to the fact that the the White did not have close on account of color more of their energies t shape.

In selecting your bree short back, short legs an block type.

In mating Single Comb B necessary to use two mat cockerels and the other f

In mating for cockerels, male to head the pen that h point comb, free from tw sprigs, and that does not neck.

Eye red in color, (or ba well striped, but do not stripe of black running out of the feather giving it a pearance, saddle also str shade of color as in hackle ing the red all around stripe.

Avoid the purple in win and fluff black, tail black a low. Have good length in to avoid a squatty appea can also apply to the fema of legs to be yellow.

Females to mate with a have small four or five po red eye, avoid smutty hac and breast to be dark, or a in color, legs yellow.

Do not have the same de males as in the males.

In your pullet mating with about the same point preferred) as in mating, eye red.

Hackle only wants to lemon color, avoid black ning to the end of the fe yellow and of good length

Females to have five folded to one side (avoid d eye red, hackle lemon co wings even shade of shafting) breast salm shading lighter underneath legs good length and y Bear in mind you are horns, and do not breed combs and wattles on th

* * *

AROUND THE YARDS.

Don't let the vermin get ah you.

* * *

After you get the chicks well don't be afraid to feed the

* * *

Don't put off that setting of from thoroughbred stock tha promised to get this spring.

* * *

Birds should not be kept in close quarters that they canno

Cheerful
Chickens

Nature intended the hen to make her own living, hence she cannot possibly be healthful, happy and prolific *in confinement* unless bodily functions operate in nature's own way.

Therefore "cheerful chickens" and a full egg basket are possible only when the hen is taken back to nature by a common-sense method of feeding.

DR. HESS
Poultry
PAN-A-CE-A

gets at the bottom of the poultryman's troubles by creating and maintaining an absolutely healthful condition of fowls in confinement. It contains the bitter tonics to aid digestion, iron to make good blood and nitrates to expel poisonous matter.

It is the prescription of Dr. Hess M D., D.V.S.) and, by aiding the hen o assimilate the food, it makes abundance of eggs. Poultry Pan-a-ce-a possesses a germicidal principle which makes it specially useful in preventing disease. Endorsed by leading poultry associations and *sold on a written guarantee.* Costs a penny a day for 30 hens.

1½ lbs. 35c; 5 lbs. 85c;
12 lbs. $1.75; 25 lb. pail $3.50

Send 2c. postage for Dr. Hess 48-page Poultry Book, free.

DR. HESS & CLARK,
Ashland, Ohio.
Instant Louse Killer Kills Lice.
E PETALUMA INCUBATOR COMPANY,
PETALUMA, CAL. Pacific Coast Distributers.

HICKS

Rocks, Reds, Wyandottes, Orpingtons, Black Minorcas, now $12.50 per 100. Brown Leghorns, $11 per 100. White Leghorns $9 per 100. Thousands hatching all the time.

IONEER HATCHERY CO.
outh Main Street, Los Angeles, California

ist Side Poultry Yards
Barred Rock and Buff
Orphington Eggs

hatched to order. We have taken the ut-
care in procuring pure stock, also selected
e "Hogan System". Visitors and corres-
nce soli ited.

J. Look No. 16 Hancock St.
E. San Jose, Cal.

WINSLOW'S
REDS The bird for the Farmer and Fancier.
Write for 1908 Mating list.
Red Feather Poultry Yards
Dr. C. E. Winslow, Monrovia, Cal. Send stamp for Red Standard.

ST SAN GABRIEL EGG RANCH

White Leghorn and Barred Rock Eggs for
ng. $1 per 13, $5 per 100. Won 12 ribbons
Breeders Show on White Leghorns. Prize
rs, $2 per 1. All hens in our breeding pens
ected, 2-years-old and are great egg pro-

nson & Johnson, San Gabriel, Cal.
abriel Car to Masonic Home then 2 blocks South

FOR SALE

dozen well-bred, Great Layers,
te Minorca Hens. One-year-old.
0 per dozen. Five males $2.50 each.
S. W. Morgan
Sunnyside, Cal.

etaluma Hatchery

the leading varieties of chicks.
bred White Leghorns a specialty.
L. W. CLARK
Main Street, Petaluma, California

igar beet fields near Davis are
ving fine growth.

exercise enough to promote health.

* * *

Speaking of incubators, will say that you do not want to listen to every Tom, Dick and Harry. Simply follow the directions of your machine. The man who made your machine should know how to operate it better than any one, therefore, follow his directions. It does not matter what results your neighbor had. His may be an entirely different machine and, therefore, may require different operation.

* * *

Jacob Hope, the famous pet stock dealer of Philadelphia, was showing a reporter one of his phonograph-trained parrots, a truly marvelous bird.

"This parrot isn't like the 'Uncle' one," said Mr. Hope. "There was a Nicetown man, you know, who had a parrot that he once commanded to say 'Uncle' in front of a roomful of guests. The parrot could say 'Uncle' beautifully, yet though the man pleaded with it nearly an hour, it remained as silent as the grave.

"Then, enraged, he snatched up the obstinate parrot, ran with it to the chicken coop, and, half-twisting its neck, threw it in among the hens.

"After his guests were gone he regretted his cruelty. He went sadly back to the chicken coop to see if the poor parrot was dead.

"Opening the door, he frowned. Ten of his twelve prize Plymouth Rocks lay corpses on the floor, and the parrot was standing on the eleventh, twisting her neck, and creaming:

"'Say "Uncle," durn ye; say "Uncle."'"

* * *

A FREAK.

I send you photograph of rooster from which I am trying to raise a new strain of fowls. Many of the pullets and cockerels show his peculiarities. How does he look to you?

One of the pullets hatched on January fourth, laid her first egg on Easter Sunday; she laid again on Monday, Thursday, Friday and Saturday, five eggs the first week. The egg laid on Friday is as large as a small Leghorn egg, the others about a third smaller. The poultry fanciers here say this is a record. I know it is a good record, but do not know just how good. The rooster has the markings of a Barred Rock, but one of the pullets is jet black. My hens are all Rocks.—Byron H. Cook, Imperial.

The pullet certainly is making a record as a layer. If she looks anything like the picture of the cock bird you sent, she is no beauty. The bird whose picture you sent has some frizzle blood in him. The feathers look as if they turned toward throat and he is surely a peculiar looker.

THE HEN AND HER NEST.

Many claim that the nest should be on the ground; but all claims that hens should have their nests on the moist ground are unsupported by facts, says Green's Fruit Grower and Home Companion.

What is required for the hen in winter is a snug, warm location; while in summer she should have a cool place.

The best material for a nest is dry earth on the bottom, with chopped hay over the earth.

Then dust the nest, hen and eggs with a good insect powder, and put a small quantity of tobacco refuse in the nest.

Should an egg be broken, or the nest become foul, clean it out thoroughly. The broken egg will cause lice quicker than anything else.

Use
Coulson's
Special Dry
Chick Food
and Insure Success

Two-Weeks-Old Chicks fed on
Coulson's Special Dry Chick Food

For Sale By
Coulson Poultry and Stock Food Company
Petaluma, Cal.

Send for our Free Book, "Poultry Feeding for Profit"

Germain Seed Co., Los Angeles
Distributing Agents for Southern California

West Coast Chick Feed

Don't be induced to take others "just as good." They cost less to make and dealers make more profit on them. You can't afford to feed the little ones anything but pure, wholesome feed, properly balanced to keep them healthy and make them grow. "West Coast" is just this and all pure feed to be fed dry; no filler, no waste, hence really the cheapest. The biggest seller because the best made. For sale by many dealers; if not by yours send direct to us.

WEST COAST MILL
818 San Fernando St. (Through to Alameda) Los Angeles, Cal.

White Wyandottes Exclusively
Our strain have won in strong competition on the Pacific Coast
Day old Chicks, Incubator lots our Specialty, $15 per 100
Booking must be made in advance. Stock and Eggs For Sale. Send for our new Catalogue
GEORGE W GRACE & SON. RURAL 21 CAPITOL AVE.
BOX 98, SAN JOSE, CAL.

BLOEM & VANDERGOOT
Black and White Poultry Yards
Successors to Ed. M. Burnell
Columbian Wyandottes exclusively. A few choice trios for sale. Eggs per setting $3.00 and $5.00. Eggs per 100, $15 and $20. Stock a matter of correspondence. LOCK BOX 51, GLENDORA, CAL.

WHITE AND BUFF WYANDOTTES
And Golden Sebright Bantams, prize winners
Stock and Eggs in season
M. E. Dillingham Box 67, San Gabriel, Cal.

White Wyandottes Exclusively
Good, White, Typical Birds. Stock and Eggs For Sale.
W. A. SEYMOUR
470 No. Beaudry Ave. Los Angeles Cal

INCUBATORS at COST

We Are Overstocked on "Old Trusty"

Incubators. We are going to sell them at cost just as long as they last. We have about sixty machines, all sizes. We do not want to have to carry these machines over until next Fall. We want to get our money out of them quick. The price we will make is the absolute cost of these machines and not a cent profit. Buy them as long as they last at the prices below. We can sell these sixty machines inside of ten days at these prices. Buy today—send your order direct. One hatch will pay for these machines. These Old Trusty Incubators are all hot water incubators heated by a system of genuine 12-oz. cold rolled copper pipes, which will last a lifetime. The very best safety lamp, the very best Sheer patent regulators, deep four-inch removable nursery drawers and all modern conveniences with every machine. First grade tongue and grooved redwood, double walls, double top and bottom. All we want is to get our money back and first come first served at these prices. I don't care if you buy a carload of Old Trusty Incubators you can't beat this price. We paid spot cash for 660 Old Trusty Incubators, and that's why we can make the low prices. Times have not been as good as usual, and we need the money and must get it. Now is the time to get a machine lower than you will be able to do again. Same big reduction on the brooders, 25 of them as long as they last. No incubator company on earth can duplicate these prices. Try to get them to do so, and see.

E. J. McClanahan, Incubator Man
Nine years at it and still going

Incubators

120-Egg Size, all complete,	$ 9.90
165-Egg Size, all complete,	11.90
240-Egg Size, all complete,	13.90

Brooders

100-Chick Size, complete,	$4.45
150-Chick Size, complete,	4.95
200-Chick Size, complete,	6.25

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CLYDE J. MOSS **Corona, Cal.**

WON SOME PRIZES.

The Cultivator is in receipt of a circular giving the winnings of the Garden Valley Poultry Yards, owned by W. S. Sullivan & Co., of Agnew, California. This circular just gives the premiums won last season by the above firm. They showed at Sacramento, San Jose and Petaluma, and from the list of prizes, cups and trophies, that they carried off we imagine there was not much left in the Buff Orpington alley for their competitors. Mr. Sullivan has been a breeder of Buff Orpingtons for a number of years. He understands breeding, perhaps, as well as any one on the Coast today, and has had great success in producing high class exhibition specimens.

He not only looks after the exhibition points, but he takes good care of the utility points as well. Any one desiring either good stock or eggs would do well to correspond with him, as we know he is thoroughly reliable and has the goods.

THE BLACK-TAILED JAPANESE BANTAMS.

Of the six varieties of Japanese Bantams, the black-tailed is supposed to be the original. They have become quite popular in the last few years, and many fine specimens can be seen on exhibition at our largest shows. They require great skill in breeding to produce fine specimens. If a breeder can get 30 per cent of standard birds, he can consider himself very fortunate. Japanese Bantams are the most odd of any of the varieties of bantams. They should have very short legs, wings carried drooping almost to the ground, the combs single. They should be solid white, except tail and wing flights. Tail should be solid black with long sickle feathers, which in good specimens are laced on the outer edge with white. Wings when folded should show only white, when spread will show primaries dark, edged with white, the carriage should be so that the back of the head and tail will touch; legs and feet yellow; comb and wattles bright red.

In mating select the very best marked specimens with short legs. I usually mate one male to three females. They are good layers of small white eggs. Young chicks are tender up to eight weeks, after this if kept out of the wet grass and provided with good dry quarters, will thrive nicely.—The Southern Fancier.

HOW TO WHITEWASH.

First, take an old broom and dust off the walls and ceiling, sweeping your house thoroughly.

The main ingredient in whitewash is lime—building lime, not chloride of lime.

Get one-half bucket of good building lime and pour over it sufficient hot water to cover. The hot water will slack it in about thirty minutes. When it is well slacked, strain through a piece of window screen, or any screen with a mesh of that size. After screening add sufficient hot water to make the liquid the thickness of molasses, then add one cup of table salt and reduce to the thickness of cream by additional hot water. Stir about fifteen minutes until every particle is thoroughly mixed. The whitewash is now ready to apply and when using it, be sure that you reach every crack or opening where a louse can hide and live.

After the whitewash is dry it will be hard and firm and will not crack or chip off for a long time.

The salt acts as a sort of gl at the same time produces a fumes caused by the action lime on it.

This whitewash is a first clas fectant and will not injure y in the least. I have used it eral years and can recomme Reliable.

Don't put the eggs in a d where the hen will be forced down on the eggs to get at she will be pretty apt to br of them. Should any of the broken at any time, the them should be washed discovered, for a smeared e hatch.

The proper dimensions for a b which to set a sitting hen ar 12 inches square. If smaller apt to crowd the hen and the are liable to be broken; if larg eggs will scatter and will not incubated. The box should be p on its side, so that the hen may easy access to it.

When you are saving eg hatching only the perfectly sh ones should be saved. Dirty rough-shelled eggs are not good hatching. Turn them every day they are put under the hen, w should not be any longer after egg is laid than is possible, for germ of the egg becomes we every day.

One reason why women gener succeed well with poultry is bec they are more considerate of wants and necessities of fowls men. But they do not usually so much about what they do.

e Stock and Dairy

HORSES.

culties that dealers and ıave in matching horses pair of horses of even ıd disposition that move more valuable than the two animals would be as The fairs recognize how to secure good matches the roadster class of d that move alike, the secondary consideration. acramento Fair one year, ze go to a span, one a other a grizzly roan. inly moved alike and ıme form, yet no one even considered them as driving span. This was matter to the extreme, I in judging this class of udge should allow a prize that are so badly mis- color that they would not d as fit to drive together. e, a sorrel and bright bay pass, while a bay or sor- asily pass when mated , grey, black or brown. l or any of these combina- reatly lessen the selling span. Even a blemished lored closely to his mate, leable than cross-matched

that raises a few horses each year can readily mated by breeding for the making matched teams. ımber of brood mares are a sire carefully that has ge horse style, then breed three or four or more to orse. If the cross produces ng colts, breed to the same long. Now if the mares ı lot, the colts will still be same blood. Keep the at two years and half old to another equally care- ted sire. These will be er now of the same blood. ling the first mares to the and their offspring to the soon a goodly number of s are obtained of the close- blood and will grow more e stock on the ranch be- re and more of the same . The disposition or tem- of the young horse will be well as their forms and hen a number of mares to the same horse per sire is reduced consid-

community there are some ery fast sires as well as dsome sires of equally good The larger sires should be y the farmer. Not less teen hundred weight horse. give a good all around colt has not style for a carriage ill make an expresser or a se. Select a sire that has bones, with a good flat leg supple pastern joints. One ort-ribbed and one that has spirit, without being vicious. rood mare has given the ee or four colts, without some special reason, she paired with another animal There is very slight losses ng young mares; the older grows the more troublesome the care becomes. The colts of young mares are more vigorous than from the older animals. When the mares are sold off at seven or eight years old they are in their prime for the city market or for farmers' brood mares.

Cripples.

One thing that does not pay is to breed crippled mares or diseased ones. They will not raise good colts if the troubles are others than accidents. If they are accidental cripples, then they must be fed and all the value is for the colt. This is paying more than is necessary and without the animal breeding in question is of very great value, it wil not pay.

Just leave these things for the other fellow to do. That fellow that knows it all. The failure to make good financial returns on a ranch comes from these little things. These little leaks. There are the little foxes. The man who has nerve enough to have mercifully killed the cripples of his stock has the making of a financial success close at hand. The feed of a cripple is as great as that of a good horse or colt.

Working the Mares.

The mares that work to within four weeks of foaling will give more vigorous colts than the idle animal. The grain fed the working brooding mare should be liberal and the work steady pulling and not jerking. The exercise and grain makes the colt have better bones and sinews. When the colts are eight weeks old the mares can be put to slow work; hay hauling and the like is good work for them. On a vineyard or orchard the mares are bred either very early or late in the season. The early bred mares come in for January and are ready to do the cultivation during March and April and on for the rest of season, while the late bred ones coming in in July and August are ready to do their work in the raising, hauling and in the grain plowing in the winter. Many men that drive their own teams work the mares right up to foaling time and then in two weeks after the colt is dropped; with the hired help of the farms this is not advisable. The mare must be allowed to cool off before nursing the colt or the milk will not be good. In work that the colt can go along with the mother, it can be let run and learn early to be controlled. A colt raised in this way hardly has to be broken when harnessed up for the first time. It is a case of train up the child in the way it should go when old he will not depart from it.—M. E. Sherman.

HOME TREATMENT OF UDDER TROUBLES.

Cows are very subject to inflammation of the udder soon after calving. The sudden distension of the bag with milk produces tenderness and irritability of the udder and particularly of the teats. This in some cows shows itself in the forms of sores or small cracks or chaps, and these are very troublesome. The cow suffers much pain in the act of milking and is often unmanageable. Many a cow has been ruined, both as a quiet and plentiful milker, by bad management when her teats have been sore. It is very difficult to heal these sores or cracks, as the milking twice a day keeps them open and irritated. The sides of these cracks become hard and caloused, while they remain open and raw at the bottom.

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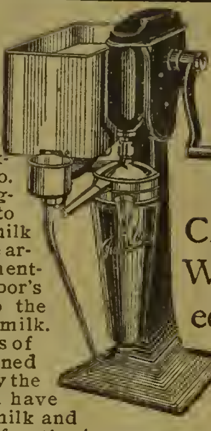

In February a certain man wished to try an experiment with a Tubular separator He wanted to know by actual test exactly what the Tubular would do.

He had no cows so he arranged with a dairyman neighbor to make the experiment with the milk from the dairy of the latter. The arrangement was for the experimenter to skim the milk at the neighbor's dairy, and the cream to go to the creamery instead of the whole milk.

The dairy owner feared a loss of cream in this way, and so bargained that the experimenter was to pay the difference between what would have been obtained for the whole milk and the money actually received for the cream.

At the end of the month Mr. Dairyman was surprised to find that the cream had returned him $30 more money than the factory would have allowed him for the whole milk.

Sequel—Next day the dairyman and two neighbor dairymen each bought a Tubular separator. and then hired a man out of employment to kick them because for years they had been throwing away $30 per month in ignorance of what a Tubular would do for them, though the opportunity to try a Tubular in their own dairies was always open to them.

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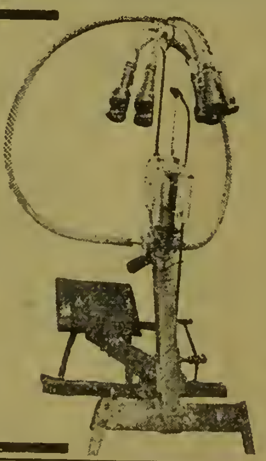

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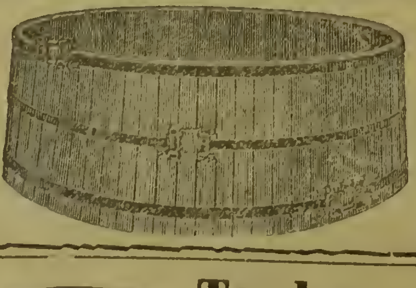

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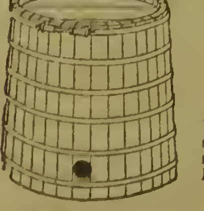

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Tanks Tanks

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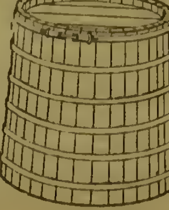

Water Tank

Scabs forming at the end of the teat are another source of annoyance. We have lost the use of the quarter in valuable cows in this way; every milking the scab must be picked off before the milk can be started the cow becomes hard to milk in that teat, milking tubes are resorted to and finally the quarter has to be dried off.

A year ago we had a cow's teat affected in this way. After trying every known method endeavoring to heal it and remembering what an old Scotch doctor used to say about poultices that heat and moisture was all the virtue they contained, we tried a small bread and milk poultice. At first we experienced some difficulty in keeping it on overnight. Especially was it difficult to tie a string without tying it too tight and stopping the circulation, but as a last resort I tried a rubber band such as is used on packets of letters. By using one large enough to double, it could be made to press on the teat in two places; in that way it did not need to be as tight to hold the poultice as though the pressure came in one place.

On taking it off to milk, no scab had formed, the milk came as free as ever it did, and in a week's time the teat had healed completely. The moisture by keeping the sore soft, prevented the scab from forming.

We have not had occasion to try this on sores or cracks on the side of teats, but shall on first occurence of such trouble and have no doubt it will work just admirably provided the sore is not so far up that a poultice will not cover it.

Perhaps one of the most common diseases of the udder is garget; various—are the causes—the thoughtless exposure of the animal to cold and wet, at the time or shortly after calving, the cow being in high condition; the hastily drying off of the cows, etc., but most commonly the trouble is caused by the careless habit of not milking the cow clean, but leaving a portion in the bag, and the best portion of the milk, too.

The cures are as various as the causes. As good and simple a cure as any, if the disease has not gone too far, is to milk out the rest of the udder clean; that is, if it has not affected all four quarters, which is, not common, bathe the affected part well with warm water, and let the calf suck and bunt the udder about at its pleasure; that is, if it is a new milk cow.

While it is generally considered bad practice to cut off the teat, there are instances where such treatment is not only beneficial but humane. A cow's bag is like a honey comb and should a tumor form and break it will only clean out the one cell; other tumors will form, break and continue thus for a long period. Should the teat be cut off, it will run out more readily, heal up quicker and cause less pain to the animal.

THE HOLSTEIN-FRIESIAN ASSOCIATION.

The twenty-third annual meeting of the Holstein-Friesian Association of America will be held at the New Court House, Syracuse, New York, on Wednesday, June 3, 1908, at 10 o'clock A. M., for the election of officers and the transaction of any other business which may legally come before it.

All persons interested in Holstein-Friesian cattle, whether members of the Association or not, are most cordially invited to attend this meeting.

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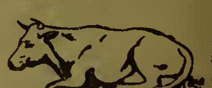

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Francisco.

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the greatest returns. There have been instances of much more profitable orchards than that, at least more profitable for single seasons, but on these orchards there have been spent thousands of dollars in fertilizers and best of care. Such returns cannot be had until vast sums have been spent in putting them in proper condition to bear large crops of fine fruit.

Furniture Factories.

Will you please tell me if there are any factories in California manufacturing high grade furniture?—C. J. C., Sebastopol.

There are in Los Angeles several such, amongst which are the Wisconsin Furniture Company, Wicker Mfg. Company, Marshall, Stearns & Co., Bryant Upholstered Furniture Company. Of course, there are many such factories in San Francisco, but at this moment could not give their address.

Mange.

My horse has had a mange or scab about neck for about a year. Have tried various remedies, none effectual. —Subscriber, Laton.

Get the following and rub in once daily with small hand scrub brush. Soft soap, four parts; kerosene, one part, and to a quart add one ounce of eucamphol.

Wooly Aphis.

My apple trees had bunches all over them last year like cotton and when I broke them open I found they had little soft pink bugs inside. They caused the apple to drop off.—J. C., Riverside.

Your apple trees are affected with wooly aphis and should be sprayed with the rosin wash. It is made as follows and should be applied to the branches and roots: One pound caustic soda, six pounds rosin and 40 gallons of water. This is the proportion and may be made in amounts to suit. Boil together the soda and rosin for about three hours and add hot water occasionally to make the full amount. Never add cold water while it is cooking.

Potato Scab.

Please give me directions for dipping potatoes to cure scab.—J. B. Kelsey, Corona.

Soak your potatoes in a solution of corrosive sublimate in the proportion of one ounce to 15 gallons of water. Leave them in this solution for two hours. They may be left in the sacks while dipping. Dip before cutting for planting.

Irrigating Walnuts.

I note your valuable article in a recent Cultivator relative to grafting walnut trees. Thinking that your familiarity with the walnut tree would enable you to answer a question for me I ask, is there anytime during the year that walnut trees should not be watered if they are thirsty? What I mean is, will watering at certain periods cause the nuts to drop. My water supply is limited and when I water I make a basin around the tree about 15 feet in diameter and water heavy. Is once a month during the whole year too much? We have a deep, sandy subsoil.—E., Gardena.

If your trees have been kept well

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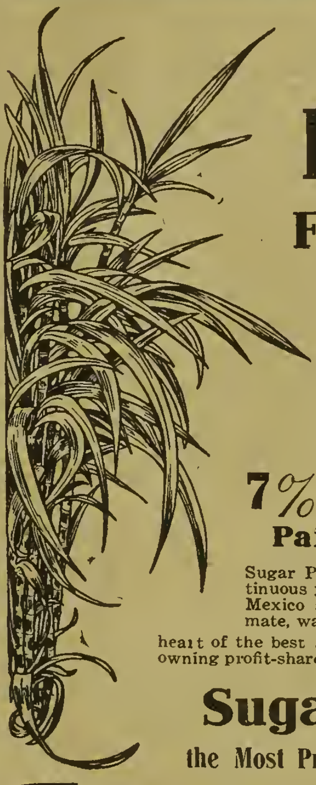

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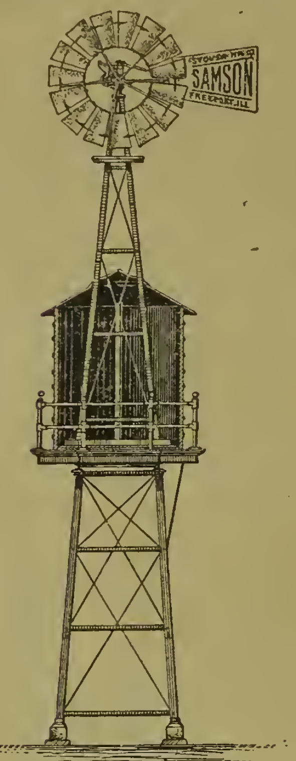
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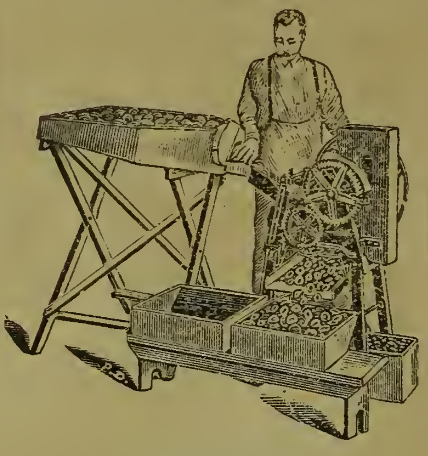

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watered so that the ground has been moist all the time there is no danger of the nuts dropping because they are irrigated. If the ground has been allowed to become dry at any time before the first of August, water might cause them to drop, but any dropping will likely be the effect of blight. Neither walnuts nor any otner tree should be allowed to become dry if they are to do their best.

If water is scarce it is better to use very deep furrows and water all the ground, if the trees are more than four years old.

Cover the furrows as soon as you can get a horse on the ground after the water has run.—J. B. Neff.

Eucalyptus.

I would be pleased to have you give me a treatise on growing blue gum eucalyptus from the seed in your valuable paper, which I have been taking for a number of years.—R. H., Modesto.

Eucalypts are not commonly propogated in open soil, but in seed boxes, and ordinarily they need some protection from cold and from the sun during their early stages. Most species make a slow growth at first, and are quite delicate, but when once fairly established they grow very rapidly. The seed is usually planted in August or September. From McClatchey's "Eucalypts" we quote:

The usual method of starting Eucalypts is to sow the seed in shallow boxes in especially prepared soil. A mixture of coarse sand and leafmold (two parts of mold to one of sand) is the best. This is placed in boxes a few inches deep; the seed is strewn quite thickly over the surface; a light covering of sand is placed on top, and this surface kept constantly moist. The plants commonly appear in c two weeks. After germinatio taken place the soil should b moist, but not wet. If kept too the young plants will be attacl parasitic fungi and perish ra "damp off," as gardeners t Applying the water about the of the forenoon, so that the plants have time to becom pa dry before night, is a precaut ful in preventing dampin of the experience of the writ th nothing better for freshly sown or for young plants, than a by a rainfall. Leaving the out during a light rain w start seed that artificial for weeks has failed to bring young plants are very much and invigorated by a shower

Before transplanting it harden the young plants by them only sufficient water wilting during the heat of After a week or so, when become more woody, wate applied freely for a few they will then be in a be tion for transplanting th treatment is omitted.

When the young seedling or three inches high, they transplanted into flats of f putting in the plants about apart each way. The soil tain less sand and more than the seedbed. A mixt mold, sand and some soil si that in which they are to b the field is a good combina the plants are few and cho usually best to transfer th the seedbed to pots inste flats. From the pots the transplanted with less loss t the boxes. They still need f watering, but the surface of does not need to be kept as during the earlier stages For a few days after being tra they often need additional from drying. When they come well established it is expose them to the sun and door air sufficiently to har before transplanting to the

Leg Weakness.

When my pigs are six they seem to break d quarters and can only d Eat heartily.—H., Mod

See Dr. Whittlesey's "Weak Legs" in last week's Department.

Cabbage.

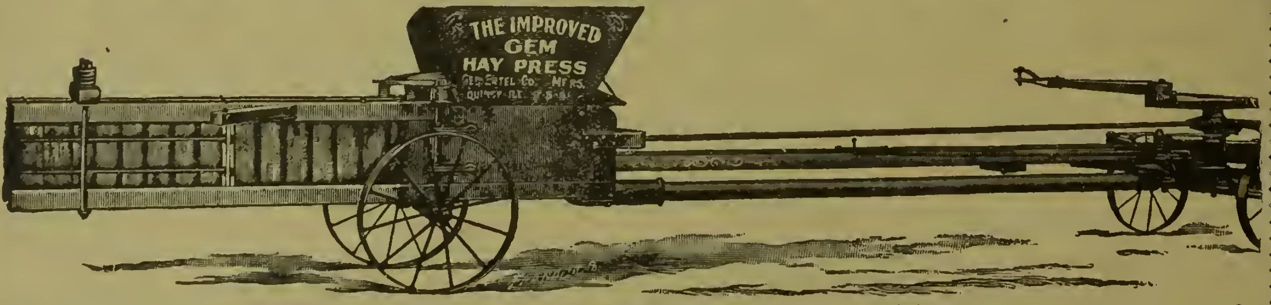
At what time is the coming cabbage in Southern Californ ed and in what month does it c the market? Also at what the year is the cabbage crop that comes on the market ruary?—A Subscriber, Ogden

I presume reference is m coming crop that is largely to distant points from Calif usually planted from July to August and shipping often be November and continues thr winter months. That which keted as late as February wo planted out in October. Cabb be grown all the year in S California, but the shipping during the winter months.—Q

Fall Crop.

Will you inform me throug columns if I can plant beans harvest my potatoes, which about the latter part of June first of July. If so, what kin

Gem Hay Press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you advise? I understand that early rains would injure them. If so, what is the nature of injury, is it blight the same as potatoes? Please tell me just what risk I would run, or is there any other fall crop you would plant in preference, except potatoes?—Mrs. M. F., Anaheim.

Yes, plant by July 20 Lady Washington or small white navy bean. The injury from early rains is mildew or mould, but you can stack or guard against that. You may plant cabbage at any time. Beans would probably be more profitable. Potatoes on same ground would not be as desirable as some other crop. Of course, you must irrigate and have your ground in good condition.

Pop Corn.

Do suckers on pop corn help supply pollen or should they all be taken off, and is there any remedy to keep worms out of the ears?—W. W. K.

Suckers should be taken off from every kind of corn if the best development of ear is desired. Suckers supply no pollen unless they bloom, and if they do bloom it is at the expense of the main stock, which, if well developed, will afford abundant pollen. There is no practical way to keep out the worms on a large scale.—Q. A. L.

Trees on Line.

Will you kindly inform me, at your earliest opportunity, if there is any law to prevent my neighbor from planting eucalyptus trees on our division line. I have read your answers to inquirers about trees that are already planted, etc., but I want to try and stop my neighbor before he gets his young trees planted, as I think they will sap my land, as well as being unsightly, aud also if he puts up a fence, can he compel me to pay half the expense.—Subscriber.

There is none, though you may dig trench to any depth you wish along near your line to prevent roots encroaching on your land. You may also trim off branches projecting on your side of line. Should the trees shade your land so as to damage crops on your side of line, you have cause for action, and any damage you can prove gives cause for suit. He can not compel you to pay for line fence unless you use it.

Storing Potatoes.

Please tell me the best way to handle and store potatoes, a small quantity for long keeping. Is there any way of killing the eyes without injuring the potatoes?—L. N. S., Glendora.

Outside of cold storage, I know of no practical method of storing potatoes in this climate that will keep them for a long time. I gave up trying to accomplish this feat years since and aim now to grow about what we can use through the early summer and buy either second crop grown here or first crop grown in northern localities for our fall and winter supply.—Q. A. L.

Wire Worm.

Can you tell me what I have to do against a small worm (about 1 inch long and as thin as a pin, with a brown head), which is destroying my muskmelon plants?—R. A. K., Arroyo Grande.

This is doubtless the common wire worm, or larva of the click beetle; a perplexing pest and impossible to control satisfactorily. They require two or three years to mature and they destroy most grain crops, strawberries and a few other root crops. Rotating crops by planting something they will not eat and they starve out.

Blackberry Rust.

Will you please tell me through your paper what disease this is on Loganberries. Inclosed you will find a slip. —W. S., Glenn.

That is the common blackberry rust and cannot be controlled after it has possession of the plant as in this case. Remove and burn affected canes and another season spray with Bordeaux before it appears.

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Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

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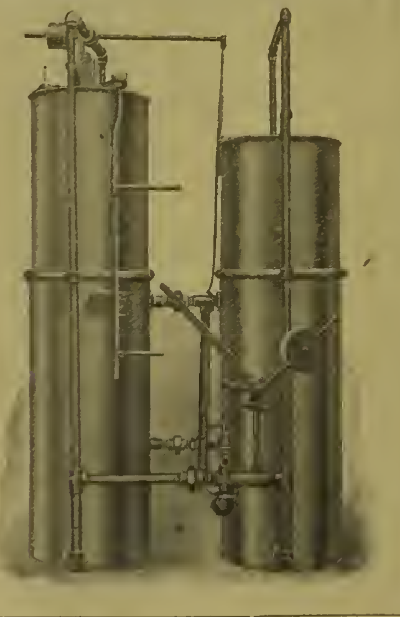

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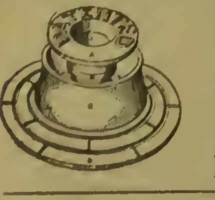

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Household Departme

THE CITY BOY.

God help the boy who never sees
The butterflies, the birds, the bees,
Nor hears the music of the breeze
When zephyrs soft are blowing;
Who cannot in sweet comfort lie
Where clover blooms are thick and high,
And hear the gentle murmur nigh
Of brooklets softly flowing.

God help the boy who does not know
Where all the woodland berries grow;
Who never sees the forest glow
When leaves are red and yellow;
Whose childish feet can never stray
Where Nature doth her charms display.
For such a hapless boy, I say,
God help the little fellow!

THE SCAPEGOATS.

Continued from last week.

In a private ward Mr. Carlton rose from a chair beside the bed on which his son lay and he bowed coldly to Riversley, while the nurse glided silently out of the room.

"Bob, old boy, here's Mr. Riversley come to see you," said Mr. Carlton gently, turning to his son.

As Bobby opened his eyes, an unwavering spirit was reflected in them. Riversley saw the look and bit his lip.

"I'm sorry, Bob—more sorry than I can say," he said, with a sad smile, leaning over the bed and lightly touching the boy's hand; and as he bent lower he whispered, "for heaven's sake, speak."

The boy rolled his head on the pillow to avert his face and closed his eyes.

"Bobby, haven't you got a word to say to me?" said Riversley, with infinite gentleness. "We were such good pals once! Won't you say something I can remember—something for friendship's sake, that'll make the world seem—what?"

Riversley saw Stella draw nearer to the bed. She was watching his face narrowly; he could feel her gaze.

"Go away!" whispered the boy, faintly.

Riversley swung around and something rising from his heart shook him.

"Bob," murmured Riversley, turning back to the bed, "I'm going now, old chap. Good-by—goodby."

Riversley squared his shoulders as he followed Mr. Carlton out of the room. The elder man inclined his head slowly and drew back, and Riversley went down the steps like a tired man.

Late in the evening he sauntered that way again and stood outside the hospital. Then he walked past a few hundred yards to where the road became a boulevard, with seats and trees. He sat down and watched the few passersby with the air of a stranger conscious of his lonliness. He vaguely noticed that one man passed and repassed two or three times on the opposite pavement asd finally crossed the road and sat down on a seat in the shadow cast by a tree.

Presently he became conscious of a light, quick step coming from the direction of the hospital, and looking up he saw the figure of a woman approaching him. He did not recognize her till she had almost passed, and then impulsively he rose.

"You?" she whispered, startled. "Oh! why are you sitting here?"

She drew nearer to him and he could see that one of her hands was pressed to her heart. He did not speak.

"Mr. Riversley," she said, stepping into a shadow, "do you know why I sent you away this morning?"

"No."

"I wanted to find out from Robert why you had come so far to see him; I saw a strange expression in face, and I heard your whispe him."

"I muttered to myself—I've g that way of late."

"You need not tell me, know, she said, in a fain voice. "I—I—I made him te and I think he was happier he told me; but I—I wouldn't when he died." She put and hid her face in t gently.

Riversley glanced this way and looked at her again. "Do said, huskily.

"But I—I—have kissed many, many times since, needn't have told me, need h

"No," he answered, "h have told you."

"Oh, yes," she exclaime her arms, "of course, he have told me—he ought to me months ago. It was him—wicked of you both ceive me. Oh—oh, Jim—"

"Hush—you forget!" sai ing a quick breath.

"Yes—I forget." She head and they stood sile face. "Jim," she cried, drawing near, "let me for She put her arms around "Only for a minute—forg minute; remember only our forgive me. Oh. Jim—J me!" She laid her face breast and wept.

"Stella," he said, in a l "we're in a public road. P pass! Child! Someone is Remember Rouston."

"Forgive!" she pleaded.

"I have nothing to forgive But remember Rouston."

"I remember," she answ ing back and dashing the t her eyes. "He should be was to have waited on the for me to see me to the came over from London after he heard the news."

"It was Rouston, then, I the road and sit down th ersley exclaimed.

He strode rapidly to the and a man rose up as he ap and held out a hand.

"Halloa, Riversley! What are you doing in Paris?"

The recognition was ous that it was clearly significance. Riversley h ulation asd gave no chanc

"How long have you b he asked.

"Oh, not long. Introduce the lady, will you—unless—I her?"

"Rouston! She is—"

"Stella? Of course! I kn I know, old chap! I'm not Good night."

"But, Rouston—"

"Hang it, man, won't y fied till I say I heard every I have always thought B by clear the air one day and t off? I couldn't hold her to it wouldn't if I could. Good n gl

He was gone.

Then Riversley returned slo where Stella was standing shadows.—C. Randolph Lichfi Tit-Bits.

The man who walks in the the borrower will have many to meet.

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of daily use it must be
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PERSONAL NEATNESS CLUB.

THOSE who love fragrance should take advantage of the wealth of bloom during the summer months to garner a rich harvest. Ordinary manufactured odors can never take the place of the dainty fragrance from dried rose leaves, lavender and other sweet-smelling things. One may fill the house with "airy wafts of perfume sweet," if care is taken to gather materials when nature provides a bountiful supply.

* * *

Again an old friend comes with a suggestion for economy. "Economy" is a hard word to some. It suggests doing that which embitters and grinds. They get confused on economy and parsimony. Economy is only an "orderly system or regulating distribution." All must certainly—or should certainly—do that.

Surely if one doesn't there will be confusion somewhere.

Hence let us be orderly and economical and with it all cheery and happy, in that economy in our lives gives a greater happiness in another.

Millinery Economy.

Dainty and becoming hats need not be expensive ones as nearly any good straw hat can be brought up-to-date by changing the shape or style of trimming, and the brim can be made higher by ripping the crown apart and sewing in a band of buckrum of the desired width, and this band can easily be concealed by the trimming, and the brim can be made any width wanted by adding rows of fancy straw and this comes in every grade and color. Steel ornaments can be brightened by first cleaning them with sweet oil and fine pumice stone, using a small tooth brush for fine, cut work, then wash in hot suds and polish with a piece of soft flannel. A white straw hat that is only slightly soiled may be cleaned with moist cornmeal, and if very soiled it can be cleaned by brushing with a paste made of lemon juice and flowers of sulphur. Let the paste remain on the straw until it has become thoroughly dry, then brush it off with a clean, dry brush

Some faded red roses were made to look as nice as new by dipping them in dark red diamond dye for cotton, and some faded straw hats were renewed by dissolving some of the same dye for wool in a little alcohol and applying to the hat with a soft brush. The hats were bent into the desired shape and when perfectly dry, they were given a coat of thin varnish.

Boys' hats cleaned and freshened in this manner, and treated to a new lining and band of ribbon, will be given a new lease on life; if the straw is good, it is well worth the trouble, as it will save the dollar or more that such hats cost.

The roses are simply dipped and re-dipped in the dye until the right shade is obtained, then they are hung up by the stems and when partly dry, the petals are carefully picked apart and smoothed out with the fingers. Sometimes the addition of new leaves, which can be purchased for a trifle, will give the flowers a fresher appearance. Black or tan straw hats can be renewed by brushing them over once or twice with shoe polish, either black or tan as required.—A. M. H.

A farmer's business is to gain a little in the knowledge of farming each day.

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Congo roof on L. S. White Foundry,
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Congo not only is absolutely waterproof when laid, but it remains so for years.

If you have a leaky roof, you can appreciate how annoying and expensive it is. Congo avoids all this.

These are facts well worthy of consideration, and if you put up a new building, or if your old roof gives trouble, use Congo. Congo can be laid right over an old roof, and you can do it yourself. No special tools or skilled labor required. We supply nails and cement for laps.

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The Produce Markets

Los Angeles Markets

LOS ANGELES, May 20, 1908.

Butter holds its former price with persistence, refusing to go up or down. Storage is taking a large quantity and no marked fluctuation is anticipated soon. Some sales are still made of extra choice stock at 2½ cents advance on quotations.

Creamery ex per roll	47½
Firsts	45
Dairy	22
Cooking	17½
"Butterine"	15@20

Cheese.

Southern California	15
Northern fresh	14¾
Eastern singles	16
Imported Swiss	27
Tulare flats	15@15½
Swiss	19
Oregon	18
Limburger	18½

Eggs and Poultry.

Eggs continued to advance after last report, but owing to continued heavy receipts market weakened and dropped on Tuesday ½ cent leaving present quotations at 22 cents for local candled.

Eggs local candled	22
Eggs case count	18½@18¾
Firsts fresh	20@21
Eastern fresh	18@19
Hens per lb	10
Young roosters per lb	17
Fryers	22
Broilers per lb	23
Roasters	17
Old roosters	8
Turkeys	16
Geese	13
Ducks	12
Squabs	1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds	6¼
Prime steers	4½
Heifers	4
Calves per lb	5
Sheep ewes per head	4.50
Lambs per head	3.25
Wethers	5.00

Potatoes.

Highlands	1.25
Early Rose	1.70@2.25
Burbanks	1.40@1.50
Salinas	1.25@1.50
Sweet potatoes per sack	3.75@4.00
Sweet, white	1.50@1.60
Oregons	1.60
White Rose	1.35
Watsonvilles	1.25
New potatoes by lb	2
Lompoc	1.75@2.00

Onions.

Bermudas per 100	2.50
Coachellas	3.30
Silverskins new	1.50@1.75
Crystal wax per crate	1.50
Garlic	12@13

Vegetables.

Artichoke per box	50
do Jerusalem box	75
Asparagus per lb	8@10
Asparagus green	7½@8½
Beets per doz	25
Bell peppers per lb	25@30
Beans limas per lb	10@12
Beans green	4@5
Beans yellow	5
Brussels sprouts per lb	12@18
Cabbage sack	50@65
Cabbage red per lb	2
Celery per doz	60@75
Celery Golden Heart	60
Corn per doz	35
Chili peppers per lb	75
Chives per doz	1.25
Cucumbers per doz	60@1.75
Cauliflower	75@1.00
Carrots per doz	25@30
Egg plant lb	12½@15
Green onions doz bunches	20@30
Horseradish	12½
Hubbard squash per lb	1@1½
Lettuce per crate	50@1.00
Mushrooms per basket	1.75
Mint per box	40
Okra	25
Peas sugar per lb	5½@6
Parsley	30
Parsnips	35@40
Rhubarb per box	60
Radishes per doz	15@20
New summer squash per box	1.40
Summer squash	40@50
Salsify	40@50
Spinach per doz	15@17½
Turnips doz bunches	40
Tomatoes per box	1.75@2.00

Citrus Fruits.

Navels fy	2.50@2.75
Navels ch	1.25@2.00
Tangerines	2.00
Culls	40@80
Grapefruit seedless	2.75@3.00
Grapefruit seedlings	1.50@1.75
Lemons fancy	1.25@2.50
Lemons choice	75@1.00
Limes 15-lb. box	85

Fresh Fruits.

Apricots per crate 25 lbs	5.00
Bellefleurs	2.00@2.25
Baldwins	1.50@1.75
Greenings	2.25@2.75
Pippins 4-tier	1.50@1.75
W W Pearmains	2.00@2.30
Colorado Jonathans	3.00
Cal Ben Davis	1.75@2.00
Cherries	95@1.00
Cherries black per lb	7@8
Cherries white per box	75@90
Dewberries	10
Loquats per lb	4@7
Plums per box	1.50
Raspberries	7@8
Strawberries	2@3
Extra fancy	10
Blackberries	8
Gooseberries	12½

Dried Fruits.

Apricots	15@17
Evap apples fy per lb	11@12
Figs loose	7
Peaches	9@11½
Pears	16
Nectarines	16
Prunes	4@4½

Beans Dried.

Limas per ctl	5.00
Pink No 1	3.60@3.70
Lady Washington	4.50
Small White	4.35@4.50
Black Eyes	4.50@5.00
Garvanzas	5.50
Lentils	9@10
Bayau	4.00

Nuts.

Almonds per lb	15@17½
Pecans polished	16@17
Peanuts Virgina	8
Peanuts California	8½
Walnuts No 1 SS	15@16
Walnuts No 1 H S	14@15

Honey.

Extracted Water White	7¼@7½
Comb W W	16

Hay.

New crop of hay is coming in and of fine quality. F. O. B. price is in the neighborhood of $14.00 for wheat and barley hay, while tame oat is commanding about $16.00 per ton. Old hay is practically all cleaned up, but so far as quotations are made they are as last week.

Price paid to producers f. o. b. Los Angeles are as follows:

Barley No 1	15.50@16.00
Barley No 2	11.00@15.00
Alfalfa northern per ton	12.50@13.50
Alfalfa local	17.00@18.00
Plain oat No 1	15.00@17.00
Wheat No. 1	15.00@16.00
Wheat No. 2	11.00@12.00

Grain.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl	1.90
Wheat in 100-lb sacks	1.95
Kaffir corn	1.80
Barley	1.50
Corn Eastern sacked	1.90
White oats	1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn	1.95
Shorts	1.80
Bran	1.65
Oil cake meal	2.50
Feed meal	2.00
Rolled barley	1.70

San Francisco Markets

SAN FRANCISCO, May 19, 1908.

Butter.

Butter has been up and is again down since last quotation. It advanced a half a cent to a cent and then dropped to exactly last week's quotations. Some sales are now made at a cent advance on quotations and prices are very firm.

California extras per lb	23
California firsts	22½
California seconds	22
Fresh packing stock	20
Fresh packing stock No. 2	19

Cheese.

California young American fy	14
Firsts	13
California flats fy	12
Firsts	11½
Eastern fy	14
Oregon fancy	14

Eggs and Poultry.

Eggs have gradually advanced till they stand at 1½ cents above last week's quotations. Market is quiet, though no weakness prevails.

Fresh ranch eggs	22
Eggs firsts per doz	21
Eggs second per doz	16½
Eggs thirds	16
Hens per doz	5.00@6.50
Hens extra	6.50@7.50
Young roosters	7.50@8.50
Old roosters	3.50@4.50
Fryers per doz	7.00@8.00
Broilers per doz	3.00@4.00
Geese per pair	2.00@2.50
Ducks young	4.00@5.00
Turkeys per lb	14@16
Pigeons	1.35@1.50

Live Stock.

Steers No 1	8
Do second quality	7½
No 1 cows and heifers	6½@7
Hogs 80 to 200 lbs	6
Hogs 200 to 300 lbs	5½
Calves per lb	3½@4½
Lambs	5½
Wethers No 1	4½
Ewes No 1	4

Potatoes.

River Whites	40@85
Oregon Burbanks	1.00@1.25
Salinas Burbanks	75@1.15
Sweets per crate	2.50@3.00
New potatoes per ctl	1.15@1.35

Vegetables.

Asparagus per lb	7@7½
Celery per doz	35@50
Cucumbers per doz	50@1.00
Chili peppers per lb	35
Egg plant per lb	12½
Green peas per sack	1.00@1.40
Squash per box	65@1.00
Marrowfat squash per sack	60@75
Mushrooms	75@1.25
Hubbard squash per sack	60@80
Onions green per box	25@40
Rhubarb per box	50@85
Tomatoes local	1.25@1.75
String beans	6@8
Wax beans	6@8
Garlic new	6@8

Onions.

Oregon yellow	3.50@4.00
Eastern red	1.50
Bermudas per crate	1.50@1.60
Australian Brown	4.00@4.50
Red	1.00@1.25

Citrus Fruits.

Navels fy	2.75@3.00
Navels ch	1.90@2.10
Grapefruit seedless	3.25@3.50
Grapefruit seedlings	1.75@2.25
Tangerines	1.50@2.00
Lemons	2.75@3.00
Limes	5.50@6.00

Fresh Fruits.

Newtons	1.65@2.00
Spitzenberg	1.75@2.00
Pomegranates per box	1.00@2.50
Strawberries per ½ crate	1.00@1.25
Strawberries Florina per crae	1.00
Longworths per chest	12.00@14.00
Cherries white per dawer	25@50
Cherries black	50@75
Cherries Bulk	2@6
Aligator pears per doz	7.00@9.00

Dried Fruits.

Apples (evap.)	5¼@6½
Apricots per lb	12¾@14
Figs white	2¼@3½
Nectarines	10@13
Plums pitted	12@15
Peaches	7¾@9¼
Pears	7@9
Prunes 4-size bag basis	2¾@3½

Beans Dried.

Limas	4.80@4.89
Pink	3.00@3.25
Small white	4.00
Large white	4.00@4.10
Lady Washington	3.45@3.50
Black eyes	3.50
Red Kidneys	3.20@3.40
Garvanzas	4.00@4.25
Bayo	3.00@3.15
Horse beans	2.25@2.40

Hops.

Hops per lb	3½@6½
Hops old fancy	1½@3

Honey.

Clear white comb	16@17
Amber	12@15
Extracted	7½@8
Beeswax No. 1 per lb	26@27
Beeswax No. 2 per lb	23@25

Hay.

Somers & Co. say:

Lack of development work throughout the State and a considerable falling off in business here will probably cause a decided decrease in the consumption of hay during the coming season. It is yet too early to forecast the crop with any certainty, but the recent showers combined with the prevailing cool weather throughout the Coast has helped the situation materially.

The account of stock in warehouses tributary to San Francisco has just been compiled by the San Francisco Hay Association, and we note a total of about 60,000 tons as compared with 40,000 ton last year. This item alone will help materially during the coming season for we have frequently noted stocks of from 15,000 t ton at this time of year.

Prices show no material chang those given last week, for al occasional sales are made at quotations, yet the average r about the same. We give prices as follows:

Choice wheat hay	17.0
Good wheat hay	14.00 t
Other grades same	11.50 t
Wheat and oat	12.5
Tame oat	11.5
Wild oat	10.0
Stock hay	8. t
Alfalfa	
Straw, per bale	

Grain.

Wheat No 1	
Barley No 1	
Corn large yellow	
Oats white	
Oats red	

Feed Stuff.

Bran per ton	
Feed cornmeal per ton	
Cracked corn per ton	
Rolled barley per ton	
Oil cake meal per ton	
Cocoanut cakes per ton	
Middlings	

Citrus Marke

LOS ANGELES, May

Oranges are reaching prices and everything of f is commanding good return markets. Even auctions are ing the $4.00 mark.

Navels are practically al lencias are going forward quantities and within ten d in full swing.

Lemons are improving r of the "winter cuts" which shippers are out of way stock is now going forw eigns are in heavy receipt, prices are promised.

Shipments.

Total shipments to date aggregate 21,755 cars, of are lemons. To same date 19,602, of which 1855 were

---

NEW YORK, May 7.—T navels, one seedling, one St. Michaels sold. Market tive but slightly lower on larger offering. Weather orable. Raining hard.

NAVELS—
Flower Grs Ft Co.......
Lionhead I L Lyon & Son
Old Mission C C Chapman
Golden Eagle C C Chapma
Columbia......
Cerrito L V W Brown...
Camelia Red Mut Or Co..
Sunshine Or Grs C.......
LEMONS—
Independent....
Choice......
Orchard Run....
Standard........
SEEDS—Flower, $2.70;

BOSTON, May 7.—Thi sold; eleven on track. W Market active.

NAVELS—
Red Globe R Ft Ex Riv...
California Orange R F Ft
Golden R Ft Ex Riv.....
Sweetheart High Ft Ex.
Eagle High Ft Ex......
Rose Red O G As......
Carnation Moul & Gre..
Tropical Queen Moul &
La Mesa Riv Ft Ex....
Tunnel S T Ft Ex Fer
Cosmos S B Ft Ex Yer
Quail O K Ft Ex.......
ST. MICHAELS—Argon
Ex., Fullerton, $2.80; H
F. Ex., Fullerton, $2.65. H
T. Ft. Ex., Fullerton, $2

PISSTBURG. May 1 sold; sixteen on track. W orable. Market very str prices about 25 cents high

NAVELS—
Violet D MFt Ex Mon.
Green Print Riv Ft Ex
Eagle High Ft Ex.....
Orchard Nat O Co.....
E. Highland High Cit A
Lake........
Blue Print Riv Ft Ex P
Yankee Doodle High Ft
Standard Nat O Co
SEEDLINGS—
Triumph C C U..........
Iris D M Ft Ex....
RUBY BLOODS—
Yankee Doodle High Ft Ex
LEMONS—
Whittier and Pico S T Ft Ex

PHILADELPHIA, May 18.— navels, five cars seedlings, tw cars and two cars lemon Weather favorable. Market Ten cars on track.

NAVELS—
Puritan S B Ft Ex Rialto
Rancho S B Ft Ex Colt.....

For Mehring Foot-Power Milk
chines see O. J. Weber Co., 5
Los Angeles St., Los Angeles, C

't Ex San Di............	2.50
A Ft Ex San Di........	3.30
HAELS—	
Ft Ex........	1.75
S—	
Ft Ex San Di...........	2.80
Ft Ex San Di..........	2.40
l S A Ft Ex San Di.....	2.80
RINE HALVES—	
....	.80
....	1.10
Valencia Brights).......	3.60
....	3.60
emons)........	2.25

ORK, May 18.—Ten navels, d, three seeds, two Med. ne lemon sold. Market very here is a sharp advance on and grades. Weather warm rable. Afternoon sale, three hree mixed sold. Market d active. Weather favorable.

S—	
V W Brown............	3.90
L V Brown............	3.60
rt High Ft Ex..........	3.65
gh Ft Ex.........	3.30
Doodle High Ft Ex	
Riv Ft Ex........	3.60
K Ft Ex.................	3.35
be Riv Ft Ex...........	3.60
r R H Ft Ex...........	3.45
Riv Ft Ex...............	3.60
H Ft Ex........	3.10
BFt Ex.................	3.65
B Ft Ex................	3.30
ld A C G Ft Ex..........	3.60
Orange Riv Ft Ex....	2.60
Nat Or Co...............	3.95
Nat Or Co.............	3.50
INGS—	
r R H Ft Ex...........	3.10
I Ft Ex........	2.50
be Riv Ft Ex............	3.15
Orange Riv Ft Ex....	2.45
nch......	3.10
Ranch..........	3.55
ent Grs Ft Co............	3.35
bel....	2.50
S—	
ird	2.50
. ...	1.85
....	1.50
S—	
r R H Ft Ex...........	3.25
Ft Ex.........	2.95
H Speich......	3.40
ular F H Speich.........	3.10
. ...	3.45
ular....	3.10
EFRUIT—	
ent Grs Ft Co..........	2.60
....	2.00
l A C G Ft Ex...........	1.90
ERANEAN SWEETS—	
F H Speich & Co......	3.35
ular F H Speich.........	2.85

N, May 18.—Thirteen cars enty-four on track. Weather Market doing better.

LS—	
Ft Ex Fer..............	3.25
Riv Ft Ex Riv..........	3.30
igh Ft Ex........	3.20
Riv Ft Ex Riv..........	3.30
S B Ft Ex Drew Sta.....	2.80
Penn Ft Co.............	3.15
Red O G Assn...........	3.05
S T Ft Ex Fer...........	3.25
art High Ft Ex..........	3.50
K Ft Ex......	2.95
S B Ft Ex Drew Sta....	3.10
d O G Assn.........	3.35
Penn Ft Co.............	3.05
Mt. Grs Ft Co.............	3.00
LINGS—	
Mt.......	2.60
....	2.45
DS, HALVES—	
K Ft Ex......	1.55
art High Ft Ex...........	1.65

ELAND, May 18.—Weather Market is strong, owing to rivals. Three cars sold; five k.

ELS—	
t Ex Whit................	2.45
. ...	3.05
.. ..	3.00
ETS—	
A H Ft Ex	2.90
McGowan & Wili...........	2.50
ONS—	
der Highland Ft Fr As..	2.80
....	1.75

LOUIS, May 18.—Eight cars nine on track. Market favor- Market is firm on good stock.

ELS—	
sa Riv Ft Ex Riv..........	3.30
Riv Ft Ex Riv.............	2.85
und S A Ft Ex N Pom...	2.70
and S A Ft Ex Orange...	2.75
Riv Ft Ex Riv............	3.15
er S A Ft Ex N Pom....	2.90
DLINGS—	
g Glory S A Ft Ex N Pom	2.70
ers Red O P Co............	3.05
sa (budded) Riv Ft Ex Riv	2.65
Red O P Co..........	2.75
MICHAELS—	
sa Riv Ft Ex Riv..........	2.95
a Stewart Ft Co............	2.95
PEFRUIT—	
eer......	1.00
ONS—	
Veil Pink & McKev........	2.35
light S S Ft Ex Or.........	2.00
Cross Pink & McKev......	2.20

rax Cure, Milk Fever Outfits. See Veber Co., 555-557 S. Los Angeles Los Angeles.

Gold and Rigorous Cold to the North of Us; What Lies to the South?

"THE Indian reads his doom in the setting sun," were the prophetic words uttered by a noted Indian chieftain more than half a century ago.

The barriers placed by savage tribes have all been swept away, and the Pacific Coast is teeming with a people restless, energetic and full of plans for great achievements.

To the south of us lies that which will become one of the greatest countries on earth: very much of it today is virgin territory. This is not a new field to conquer in a hostile sense, for only peace and the best of good will exist between the two republics: between the northern born American and the Castilian dwelling in the land of the Montezumas. But Mexico has become progressive and welcomes Americans, with their vim and energy, their capital and their progressive ways, and will continue to welcome Americans as long as they continue by their methods to be a true acquisition to the country they are now assisting to develop.

In many ways, perhaps, the most highly favored portion of the great Republic is that portion comprising the States of Vera Cruz, San Luis Potosi, and Tamaulipas, with their sea-port town of Tampico, which is today the greatest seaport of Mexico, and is destined to be one of the busy marts of the world.

In July, 1905, the shipping of Tampico was cared for by nine lines of steamers, but today sixteen steamship lines radiate from this center to all parts of the world; yet, strange to say, the natural resources of these wonderful states have scarcely been touched: by far the greater part is either dense jungle on the rich river bottoms, or stock ranges on the higher plateaus.

The rivers Panuco and Tamesi are important streams, emptying into the Gulf of Mexico at Tampico. The Tamesi, at its junction with the Panuco, is as wide as the Mississippi is in many places, and will perhaps average 500 feet in width for more than 100 miles above its mouth. For large ships, one place on the Tamesi, near its mouth, needs dredging. This was temporarily dredged during the Mexican War, and the American fleet passed up the river to a point eighty miles above Hacienda Paso del Haba, or one-hundred fifty miles above Tampico. This illustrates the easy navigability of the river. For miles and miles this beautiful stream, with its fertile lands, is fringed with banana groves and sugar plantations. These belong to the natives. Their sugar plantations are of the crudest types and are operated with old-fashioned wooden roller mills, and very rude boiling vats, but so successful are they, that from them an enterprising American company took its cue, bought Hacienda Paso del Haba, an estate of over 9000 acres, and is rapidly converting this valuable property into a modern sugar plantation. The same transformation is going on on the river Panuco, where two wealthy American companies are growing sugar cane and producing sugar. There are already no less than seven large companies in the region tributary to Tampico, raising sugar cane. Some of them have their mills completed with the most modern machinery, capable of manufacturing the highest grade of refined sugar. Some of the newer plantations are in more of a formative stage, but all have reached the point of assured success. One of the newer companies is composed of millionaires who made their wealth in Louisiana. They are transforming their business to a great plantation they are building here and are abandoning their Louisiana plantations.

The thousands upon thousands of acres which these companies are converting into bonanza properties, modern sugar plantations, are the merest beginning of what will be accomplished in Mexico during the next few years. If wealth will make any country powerful, Mexico is destined to great power.

The reputed gold of Ophir has been almost forgotten since the American discoveries of gold in frozen Alaska. but it remains for tropical Mexico, with her fifty inches of rain-fall, her extensive river-bottoms, with soil of unknown depth, and other conditions that make her the most favored field on earth for growing sugar-cane, to literally fill her ships with gold from the production of this, the safest and most profitable agricultural crop in existence.

Is this a sudden awakening for the Mexico we have all known for so long a time? A feeling of sadness sometimes comes with too rude an awakening. Let us go back for a little while to our pleasant dreams, to the Mexico of other days.

We are again in Tampico. Our faithful mozo (servant) is at our side. We are observing the quaint customs in this old city that has struggled up through the uncertain conditions of a listless past. The vaqueros return from the cattle ranges and engage in their nightly revels. The guitar and dance halls are in evidence. Occasionally an American comes upon the scene. If a traveler, and he intends stopping in the Spanish portion of the town, his trunk, instead of weighting down an express wagon, is borne on the back of a peon, who makes of himself a veritable beast of burden.

This is modern Mexico. The present clasps hands with the medieval. Whatever way we turn we encounter the modern in touch with the dreamy past. Everywhere about us are evidences of a new growth—a new era—yea, a new world that is being created, and that creation is springing from the combined brain and brawn of American architects and builders who are building up permanent wealth for themselves and all who participate with them will partake of the glory of the greater Republic which is foreshadowed and will rise as a giant hitherto unknown, whose power has not heretofore been reckoned among the nations of the earth.

Of California capital invested in the above rich section of Mexico, Los Angeles claims the distinction of having one of the most progressive companies in the field, namely The Tampico Sugar Company, with offices on the fifth floor of the Union Trust Building.

This Company has large acreage under cultivation, and some about to come into bearing.

The pioneering of this concern in placing before local capital the vast opportunities of sugar plantation development in the Tampico section is now telling in the splendid preparation of their plantation to enjoy an early market.

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LONGEST LIFE FEWEST PARTS
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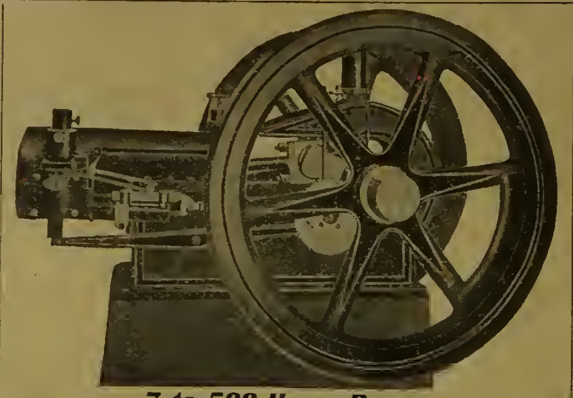

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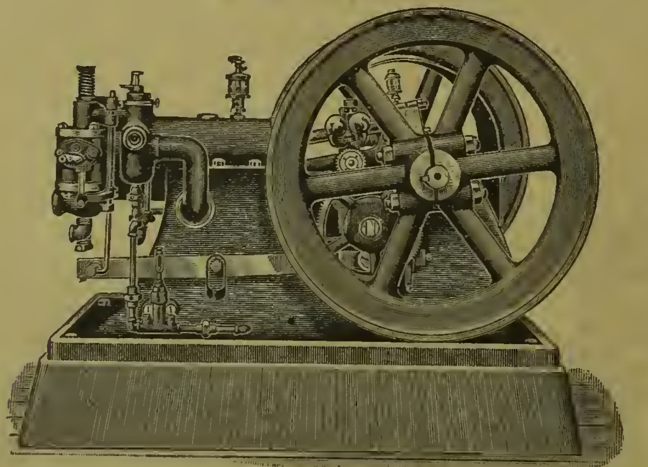

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no valves or plungers t
or get out of order, no
consequently no noise or
ing of teeth.

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constant flow, hence in
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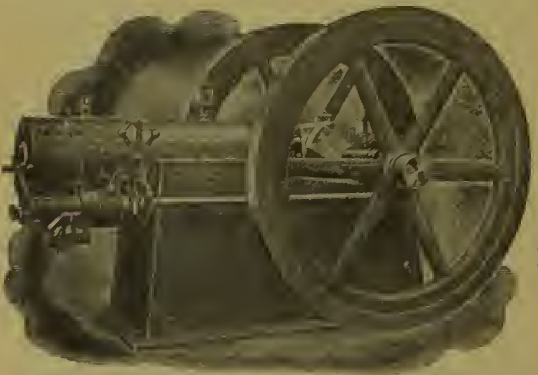

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WM. GREGOR

Salesrooms: 602-608 N. Main S
Los Angeles, California

California Cultivator
Published Weekly
One Dollar a Year
Angeles May 28, 1908 San Francisco

wers for the Blue and the Gray

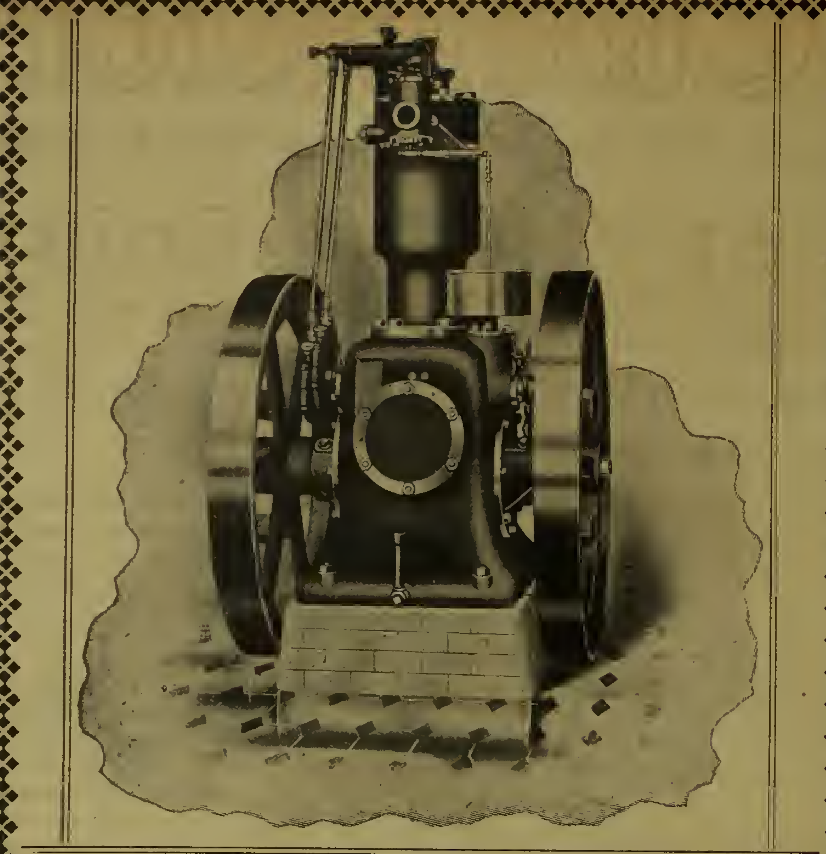
The Southern women will decorate the graves of the Union and Confederate soldiers this Memorial Day. The bouquets will be tied with blue and gray ribbons.—From Southern paper.

arlands and wreaths of flowers,
  Roses of white and red,
Tenderly a woman laid them
  On the graves of the unknown dead.
She knew not on which side they fought,
  For the past lives not today,
But with loving hands she tied each wreath
  With ribbons of blue and gray.

Softly the languid Southern breeze
  Kisses the long grave-grass,
And murmurs a requiem, sad and sweet,
  To the mourners as they pass;
Sad-faced women and white-haired men
  Whose loved ones fell in the fray,
Spread o'er the mounds their flowers tied
  With ribbons of blue and gray.

Many a soldier lies at rest
  In a grave unidentified;
They were the unknown heroes
  Who rushed to the front and died;
But it matters not on which side they fought—
  Forgotten the feud today,
As the graves are decked with flowers tied
  With ribbons of blue and gray.

'Twas years ago they fought and fell,
  The boys of the Gray and Blue.
Both died for what they deemed the right,
  All were heroes, stanch and true;
And as they sleep in their silent graves,
  In the North and the South today,
Let us strew the mounds with flowers tied
  With ribbons of blue and gray.



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to press the two fa
to make a WAT
joint, from eith
when closed. Th
very simple, only a
screw with a split ta
socket. By turning t
to the right tighten
left loosens the co
may be removed en

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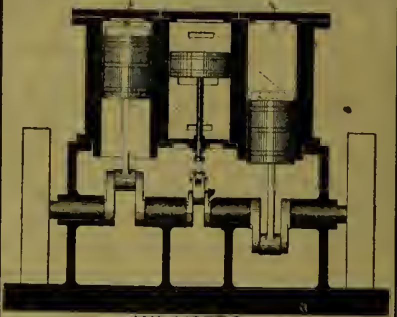

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gines without a valve or coil spring.
Constant compression and constan
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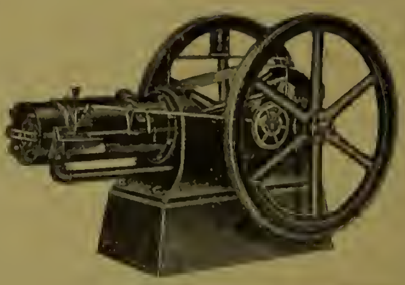

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X–No. 22 Los Angeles, California, Thursday, May 28, 1908 Subscription $1 a Year

oper Handling of Citrus Fruits

An Address Before the State Fruit Growers Convention at Riverside, April 29, 1908

By J. H. REED, Riverside, Cal.

incipal effort in pomology in this
during the last century, was to secure
d varieties of fruits. The wild
we hunted in the meadows in our
lays, however delicious to our un-
ees, was not altogether satisfactory.
ought of the seedling apple of years
a quick scowl, till the recollection of
mes of the old-fashioned paring bee,
g straws thrust into the bungholes of
of sweet cider at the old cider mill,
cowl to a smile.

own recollection the family orchards
y composed of seedlings. I have a
of an apple tree which grew from a
ht by my grandmother from Con-
d planted by the side of her log cabin
ds of Ohio, 105 years ago. In those
its fruit was considered wonderful.
the apple sent me from it with the
ng photograph last year were de-
look at because of old associations,
desire to taste it. In this way
orchards were started. But then, as
were those who wanted something
n they had, and went straight about
The grafter—not the modern sort—
is saw and scions and wax pot, began
nis annual spring appearance.

seedling fruit had good carrying qual-
could shake it from the trees, pile it
x cart, haul it to the cellar, pour it
g bins, use it during the long winters,
sound fruit to feed to the pigs in late

ne grafted branches began to bring us
d pearmains, we soon found it best to
ad of shake them from the tree, and
n more carefully.

proved fruit began to be called for in
, and commercial orchards of budded
e planted throughout the Middle and
States, and a great industry was estab-

no place to go into its varied history,
is of exceeding interest, and not with-
ns that may be profitably studied by
comparatively small citrus industry.

nning.

In connection with this great winter ap-
ness that the Department of Agriculture
one of its most important services to
n agriculture. I may be pardoned for
to this, however, because it was through
rship of our Mr. Powell in the scientific
tions of a few years ago that the meth-
andling winter apples, especially in cold
were revolutionized, and thus the most
t fruit industry of the country placed
mer and more profitable basis than ever
Mr. Powell is known and esteemed to-
all the winter apple growing sections of
ntry, as he will be in California orange
districts in years to come.

me extent the brief history of our Cali-
citrus industry has been similar to this.
edlings in early days were considered
ood fruit. They would endure much hard
In Old Mexico I saw oranges brought
and thirty miles in sacks on pack mules,
d up at railroad stations to be shipped like
s, yet they reached distant markets in fair condition. Many of our own seedlings will stand treatment that would ruin our improved varieties.

There are two ways by which we may ward off damage to our more delicate modern citrus product. We may breed out these delicate characteristics, securing varieties that would endure rough handling. While this would be at the expense of desirable qualities, had we no other recourse, it probably would be the wise thing to do.

Breeding to Conditions.

Prof. Hanson, that grand man of South Dakota, who is accomplishing such wonders for horticulture in that great Empire of the Northwest, is trying to secure a hardy apple that will endure the cold winters of that north country, by crossing delicate varieties with the unedible fruits of that region. Judging from what he has already accomplished, there is little doubt about his succeeding. But no one expects him to produce anything to take the place of the California Bellflower, or any other variety raised under favorable conditions, sought for by fruit lovers.

Some California growers have been a little nervous over the possible outcome of Dr. Weber's new variety of hardy orange that may be produced throughout the temperate regions. No doubt he has produced a wonderful new fruit, but it will never take the place of our California navel. Though this beautiful fruit of ours, raised perhaps under as ideal conditions as exist, is delicate and unfitted to stand hardship, we have now been shown how these desired qualities may be retained, and yet have the fruit placed in the distant markets in perfect condition.

Instead of trying to breed into our juicy tender fruit qualities to enable it to endure hardship, at the expense of those which give our oranges their highest value, our propagators may now turn their attention to adding other delicate characteristics of flavor and beauty with assurance that they need not prove a hindrance to their profitable marketing. This may not only be known as the Powell era in the history of the California orange industry because of the new money values his investigations have given our product, but because now we may turn our attention to adding new attractiveness to our already popular fruit.

Long Time Learning.

I don't know how the rest of you old orange producers feel about it, but I confess to a very shamed feeling when I think that after nearly twenty years of experience with, and somewhat careful study of this fruit, and in spite of the tremendous annual loss we were sustaining from decay all this time, I had not sense enough to find out that all we had to do to put our fruit into the markets without decay, with an aggregate saving of millions to our industry, was to prevent injury in handling. And now, I feel like trying to forget the humiliation by adding my mite towards inducing the industry as a whole, to effectively use the tremendously valuable facts the government had to come across the continent to show us.

Here is the finest orange picked from my little home grove, near a score of years ago, and here is a Florida Russet that I cut from the Florida tree two years ago, handling it somewhat carefully that I might get it home safely. The framework of these fruits being uninjured, all germs of disease were excluded, and they remained perfect till the juice gradually evaporated after long exposure. In this little nutshell is the whole secret of our fruit decay and its prevention.

Prompt Applications.

Perhaps in no instance has so marked practical results from scientific investigation been followed so quickly and generally by actual changes in methods in any great agricultural industry, as we already find in the handling of our California oranges since the results of Mr. Powell's investigations into the causes of their decay have been made known. The newly discovered factor in prolonging the life of an orange after it has been parted from the tree, has been so effectively demonstrated, as to command the attention of growers in all California orange sections, to such extent as to have already radically changed methods in harvesting the fruit and preparing it for market. New laws concerning the effect of temperature, have been so well determined, as to materially change methods in transportation, and more than a million dollars per annum is being saved to the industry by intelligent, careful handling.

It is a wonderful achievement for scientific research and of the prompt application of its results in practice. I am proud of our Department of Agriculture, and the trained young men it sends us to help us out of our serious difficulties. I am proud, too, of the few enterprising orange growers who so promptly and efficiently applied the new facts brought out by the scientists, and so quickly gave us practical object lessons demonstrating their value.

But, are we satisfied, even with these prompt and splendid results, though alone sufficient to mark an era in our industry? I confess for one, I am not. So long as there is careless picking in so many orchards—so long as we see so large a proportion of the oranges hauled from orchard to the packing house in the heat of the day, unprotected from the broiling sun and insinuating dust, in wagons without springs and otherwise utterly unfit for their transportation—so long as crude or complex machinery through which it is impossible for fruit to pass without mechanical injury, is found in so many of our packing houses —so long as packing houses attempt to handle twice the amount of fruit during the hurried part of the season their equipment is capable of—in short, so long as the daily reports show that one-third of the sales returns from practically the same grade of fruit, average net, to the grower more than 50 cents per box, than the average of the lower third of the aggregate with the highest prices uniformly going to those utilizing the careful methods most thoroughly, so long, the gospel of careful handling of our oranges should be preached by every one interested in the permanent welfare of our industry.

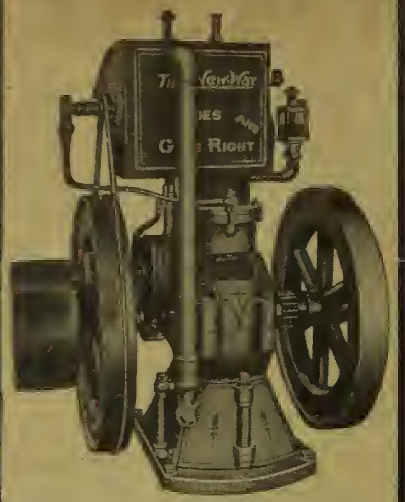
Depend On Each Other.

It is not worthy of any of us to say, or think unsaid: "I have learned how my fruit may be put into the market at a large increase of profit over old ways, and I am seeing to it that it is done. The other fellow must look out for himself. Whether he uses the improved methods does not interest me." It should interest every generous minded man connected with the industry, and induce him to join in every effort to secure general adoption of better methods.

Some of you may question if this can be done.

Continued on Page 596.

THE NEW WAY
AIR COOLED ENGINES



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Size	Wt. per Ft.	Price per 100 Ft Black	Price Per 100 Feet Dipped
½ Inch	.84 lb.	2 25	3.25
¾ "	1.12 "	3.35	4.35
1 "	1.67 "	4.00	5.00
1¼ "	2.24 "	5.65	6.90
1½ "	2.68 "	6.50	8.00
2 "	3.61 "	9.00	11.00
2½ "	5.74 "	15.00	17.50
3 "	7.54 "	18.25	21.25
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With the Citrus Growers

METHODS OF BUDDING OLD TREES.

IT requires some skill to rebud an old orange tree and carry it through the first year satisfactorily. If a good top is not secured the first time, by all means allow the suckers to grow all they will for the first year and bud into them either in the fall or early spring, but do not cut them back till the following spring. If from any cause and especially frost, a tree should lose its top and go through the winter without one, it will take years to recover, and it is doubtful if it ever does recover entirely. It is more often profitable to replant trees from the nursery.

There need be no difficulty in putting a new top on an old tree unless it is a Mediterranean Sweet. There are often failures with this variety though there need not be a large per cent if proper methods are employed. The first operation is to saw off all branches that are not to be utilized in making the new top. The cuts should be made just outside of the base of the branch at a point known as the collar. The cut surface should be painted over with wax at once. Removing the surplus branches directs the flow of sap to the remaining top and insures better results. The buds are put in at this time and the increased flow induces a rapid healing and a quick union.

There is some value in what is known as cured buds. These are buds cut and packed away in moist sand for a few weeks or days before using. The bud sticks should be kept in a cool place in sand barely moist so that the bark will not shrivel or gather moisture. This renders the buds slightly tough and a little dryer than the stock into which they are to be inserted. As a consequence, as soon as they come in contact with the flowing sap, they absorb it rapidly and a transmission of sap is at once established. The buds thus inserted should be wrapped immediately with waxed cloth torn in strips about three quarters of an inch wide and in convenient lengths. The best wrapping material is made from good sheeting cut in strips as wide as the length of the working material is long. Roll the pieces as tightly as possible, wrap snugly with twine so as to leave no spaces in the folds, Boil these in pure beeswax for half an hour or more and remove from the wax while it is boiling. The boiling wax penetrates the entire mass of cloth and closes all the pores in the material. They may be left rolled up till used.

Removing the Bands.

This is the first important operation after budding. Buds may appear to be healed over entirely at the end of four weeks, may appear perfectly green and healthy, and if the bands are removed, many may die. There is no set rule for time in removing the bands, but if the weather is very warm during the first four weeks after budding it is safe to take the bands off at the end of this time. If the spring has been cold with little active growing weather, six weeks is none too long to leave the bands on.

At the time the bands are removed, the tops should be sawed off about one and a half or two inches above the buds. The entire trunk should be whitewashed at once to prevent sunburn, and the ends of the stumps should be waxed at the same time. A good and economical wax for this purpose is made of 4 parts rosin, 2 parts beeswax and one part tallow, boiled together till well mixed. Apply to the cut surface with a brush, and in order to do this it is necessary to keep the wax almost hot.

Protection.

The above described method is entirely satisfactory where there will be no danger from frost killing the young tops. In such cases where the above method of topping is employed, it is necessary to protect the tops during the first winter with some covering.

A very successful method often used in frosty locations, is to girdle the branches just above the buds at the time of removing the bands and allow the tops to remain till the following spring. The buds will start just the same as though the tops were cut off, and the umbrella top afforded by the girdled branches will protect the young top beneath from the frost. This method has been practiced by Mr. Koethen, of Riverside, with good results.

When wrapping the tops is necessary, nothing is better than palm leaves with the stems nailed to the trunk or branches and the leaf part tied snugly around the new tops.

Pinching Back.

The buds will make a rank, sappy growth and should be pinched back when about a foot long. At this length they will branch and harden the fiber so that they will not break off so easily in high winds, and will also stand the frost better than if allowed to continue the succulent growth. About September they should have the tips pinched again to prevent any later growth. After the first year, the new tops should be trimmed at the end of the growing season so as to shape the top, cutting back to the main fork of the main branches any long, slender growth. This will give shape and strength to the new top. Never cut a branch off so as to leave a stub at the end, but cut back to the first fork and make a shorter limb or a spur the terminal. This refers to the second and succeeding years. The first summer after budding it is necessary to tip the ends of the rank growth.—J. W. Mills.

HANDLING OF CITRUS FRUITS.

Continued from Page 595.

Most certainly it can be done. The orange growers of California are an intelligent class of agriculturists. It is true these new laws, the value of which scientists have demonstrated, are applied with more difficulty by the small grower. But when it is shown that on a product of but a thousand boxes there may be an actual saving of from $250 to $500, he is going to find a way to secure it.

Most Inviting.

Besides this money view, I confess to some sentiment in this matter. The production of oranges in California, to my mind, offers the most inviting of all agricultural pursuits for an intelligent, cultivated people. That the 50,000 cars of this fruit per season to go from California orchards in the near future, may be produced under the management of a few great landed proprietors, because of their keen, far-sighted, prompt adoption of better methods, neglected by smaller growers, is not a pleasing thought to me.

I prefer to think of this great product that will soon be found on the table of the wealthy epicure of all nations, because of its qualities, and on the tables of the intelligent laborer in our own and other lands, because improved methods have insured a low cost of production, and safe carriage to all countries, coming from ten thousand California proprietors of small holdings with an intelligent, happy household connected with each.. This I believe to be quite possible, with all the advantages it would insure to the State as well as to the local communities and the individual. It is for this reason largely that I believe special effort, individual and associated, should be made to induce the average grower of today to promptly utilize the improved methods,, not only of production, but of handling our great orange product which scientific investigations are so clearly demonstrating to us.

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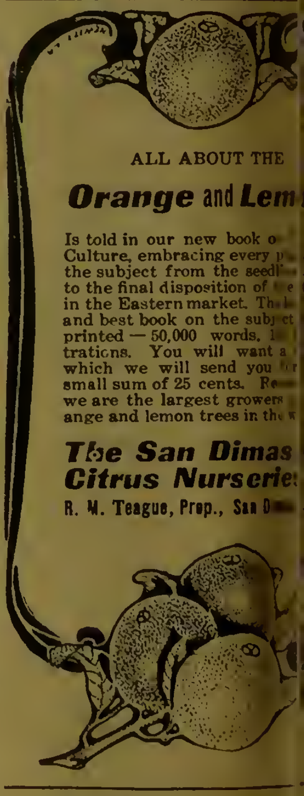

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ILE Mr. Palmer's address
Maintaining Fertility in the
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Cultivator is so excellent a pa-
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But, while superficial writers
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for its growth. The theory of
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ile fully recognizing the im-
nce of adding humus to the soil,
e never planted a cover crop in
rove, for I am not satisfied that
a wise thing to do.

om watching my neighbors ex-
ent (often disastrously) with
crops, I am convinced that un-
the present method the practical
ulties often far outweigh the
etical advantages. And even the theory is wrong in several important respects. The proper conditions for cover cropping seem to be almost irreconcilable with our system of irrigation in a semi-tropical, semi-arid region.

A cover crop would be more desirable in summer than in winter, to shade the ground from the baking sun; but this is incompatible with irrigating and dust mulching. Plant your cover crop before the rains begin, and you must furrow out in case further irrigation is necessary. Then, if the grove is on a hillside, the rains may convert those furrows into gullies and grand canyons of the Colorado; also you lose much of the benefit of the winters rainfall, since you cannot keep the soil in a condition to receive and store it up. In this particular the cover crop often does more harm than good. Plant your cover crop after the rainy season has begun, and you will probably have to plow it under before it sufficiently matures to be of any material benefit or find yourself with the ground "frozen" hard because you waited for the "last rain" that failed to make its appearance.

It reminds me of a neighbor who, this spring when the rains ceased a month too soon, after disking, plowing and cussing his luxuriant cover crop, and then making futile attempts to irrigate and cultivate, finally raked the offending peas into piles and burned them. He rejoiced, however, to know that the "nodules" and "bacteria" were somewhere underground and doing their perfect work. As the soil had been upheaved into mighty clods that needed the services of a rock crusher, I doubt if those nodules repaid the loss of moisture and the strenuous toil they had entailed.

Cover crops of any kind are a nuisance in a lemon grove, and upright growing ones are not to be thought of.

Considering these and other grave objections to cover cropping in our semi-arid climate, I have preferred to enrich the soil with humus and nitrate by the simpler and more direct method of hauling 'em into the grove in a wagon. On the whole, I think it is also cheaper. In my neighbor's case, I don't think his soil needed nitrogen, anyway. It needs iron sulphate and lime; for it is wofully deficient in iron, an important element for citrus trees—and it contains soluble silicates, which "set" like cement when drying—a condition which lime would correct by rendering them insoluble.

I would suggest that the Cultivator establish a "soil-doctoring" department, in charge of a competent chemist, so that the orchardist could obtain, for a reasonable fee, an analysis telling him in plain language what his soil contains and what it lacks, with practical advice as to the best means for supplying the lacking elements—not the technical form of analysis, which is almost as unintelligible and useless to him as would be a papyrus covered with Egyptian hieroglyphics.—James M. Pryse, San Gabriel.

* * *

The true test of fertilizer is results, and the fruit which folows its application. One orchardist will follow one method and secure big crops which prove profitable. Another, under other soil conditions and in differ-

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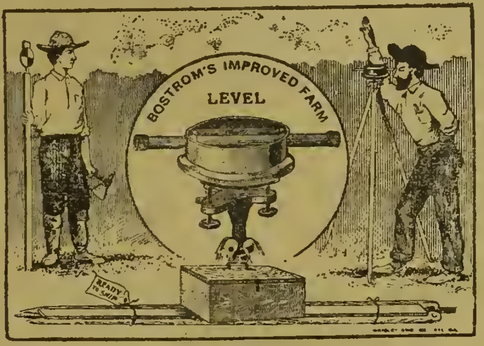

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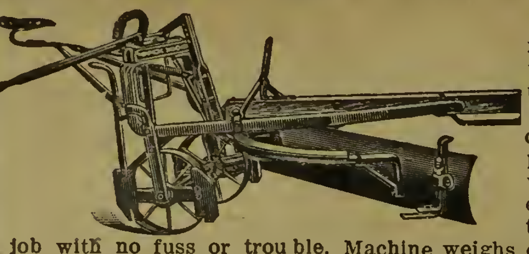

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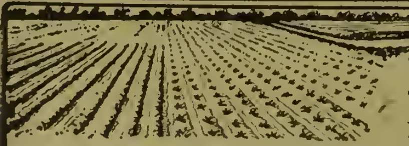

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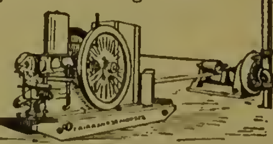

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ent circumstances, follows an entirely different course and accomplishes equally as good results. This is no indication that either of the methods is the only one or even the best to be used, but they succeed, and if that succees is complete it is sufficient.

We believe the very cheapest method of improving the soil mechanically and chemically is by the use of cover crops. We believe it because hundreds of orchardists have proven it under practically all kinds of conditions. With it they are possibly applying some form of commercial fertilizer.

On the other hand, we give an example below of Mr. A. B. Cowgill of Redlands who secured very satisfactory results as shown by the figures which he gives as the result of several years application of stable manure supplemented with nitrate of soda. The figures given here are as they appear in a recent issue of the Redlands Facts. This will in a measure sustain the contention of the above article. Meantime careful orchardists may also go on making money by cover crops.

Of the thirty acres of bearing trees Mr. Cowgill has been paying more especial attention to a ten-acre piece which he calls the "Benson orchard" because he bought it of a man named Benson when he first came to Redlands. There are 992 trees, Washington navels, on the ten, and they were planted 16 years ago.

During the season 1901-02 Mr. Cowgill picked 2260 loose boxes of fruit and in the spring of 1902 put five pounds of commercial fertilizer to each tree.

The following year the crop increased to 3055 loose boxes, and in the spring the fertilizer was increased to 10 pounds per tree.

In 1903-04, a further increase to 4052 boxes was made. The fertilizer was again increased to 12 pounds per tree the following spring 1904.

Up to this time the orchard was picked as a whole, but in 1904-05 the east and west fives were kept separate when the picking was done, and beginning with this crop is the part of this article which will be of especial interest.

The east five acres produced 2346 loose boxes and the west five 2057, a total of 4403 for the 992 trees.

The twelve pounds of fertilizer was continued. The next season, 1905-06, the results did not show up so well, as the east five had only 1658 boxes, a decrease of 688 boxes. The west five also showed a falling off, 1157 boxes being the product, or 900 boxes less than the previous yield. The ten had 2815 boxes, as against 4403 the year before, a shortage of 1588 boxes.

With a decrease in the output of the ten of over 1500 boxes staring him in the face, Mr. Cowgill began to sit up and take notice, and so in the spring of 1906 he added three pounds of nitrate to the 12 pounds of commercial, and on the west five he put four cars of stable manure during the months of December, 1906 and January, 1907.

Last year the effect of this treatment began to show. The east five, which had been fertilized with the 12 pounds as formerly with the addition of three pounds of nitrate, did not respond to its food but went down to 1479 boxes, 179 less than the year before. But the west five responded liberally to the food product given it and the crop amounted to 2059 loose boxes. This showed a gain of 902 boxes, but as the east five had dropped off in product, the
the whole ten was 723 boxes.

Encouraged by the appear
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The results of this
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than last year, 6859 in all,
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Last winter Mr. Cowgill
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The grading of the frui
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In 1904-05 the fancy's were
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1906-07, 65.80 per cent, and in
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fruit.

Mr. Cowgill has a ten jus
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is particularly proud. The
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Yuba county thinks she c
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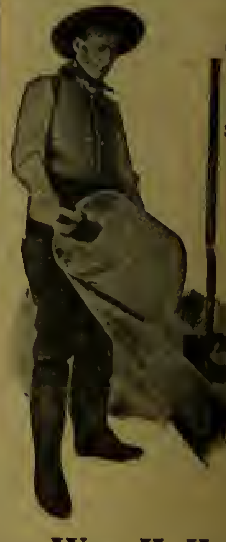

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NG OVERLOADED FRUIT TREES.

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heavily, and the work of
will be a very severe and
one. Perhaps there is no
ork on the orchard so heart-
as thinning the fruit.
l the care that has been be-
upon it. in pruning, cultivat-
ating, etc. the trees for once
full bearing and are loaded
heavy crop of fruit. Now it is
of the owner to destroy the
part of his crop in order that
left may be marketable. It
ooks like hiring men at a
t to destroy one's property.
know that if it is not done
will be small and worthless.
al plan is to pluck from the
ll fruit which crowds the
and leave from six to eight
between the specimens which
main in the case of peaches,
to three inches in the apri-

OYING THE BALANCE OF NATURE.

omond, in Santa Cruz county,
ring from an attack of small
locally known as Kangaroo
rats. It is stated that some time since a war was waged on the rattlesnakes of this section, until these were nearly exterminated. The rattlers preyed largely upon the rats, and now that their natural enemies have been destroyed, there is no check on the rats, and they have bred in alarming numbers and are feeding on the tender growth of the vines to the destruction of the grape crop, and the growers are at their wits' end to cope with them. Most people would rather have rats than rattlesnakes, but this illustrates a great truth in the natural world, that there is a perfect system of checks and if we interfere with this balance of nature we will make a mess of it. We have done this in many cases, and the work is still going on in the slaughter of our birds; in fact, the undue number of many of our worst pests is due to the fact that their feathered checks have been wantonly destroyed and they have been left to increase without check of any kind. All of our worst pests of the orchard and the farm are due to the fact that we have in some way disturbed this balance of nature, either by introducing new insects with plants or in other ways, without their natural enemies, or by destroying their natural enemies as we have done in the case of birds and reptiles. All our reptiles are beneficial. Snakes live largely upon destructive rodents. Lizards, frogs and toads are insictiverous and all should be protected. Even the rattler, aside from its dangerous habit of striking at our lives, is beneficial. However, we should not advocate the rattler for he is too dangerous to take any risks with and all the good he might do would not compensate for his destruction of human life.

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os Angeles.

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The parasite of the codling moth, which was introduced severai years ago, and from which so much was expected at the time, does not appear to have made good. There was no question as to the effectiveness of its work in confinement, where its food was provided for it, and no other than codling moth larvae was within reach, but in the orchard, where its food insect was not always available in quantity, it has not proven so effective. It is a fact that there are very few codling moths left in the orchard when the fruit has been gathered. The great mass of the worms go with the fruit to the packing houses, and it is here that the pest can be found in quantity in the pupae form, in which form they are attacked by the fly. It is not improbable that the new parasite is now firmly established here and that it will do some good, but we have got to keep to the old time system of spraying with some of the arsenites if we would have even a partial crop. The Calliephialtes messor may be of assistance in checking the codling moth, but we shall have to secure a more effective enemy for it before we can place our whole trust in it.

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The Ornamental Garde

PREPARING SOIL AND TRANSPLANTING.

BECAUSE the flower garden occupies only a small amount of space, as a general thing, most amateurs belittle the importance of doing thorough work in it, and it receives only a fraction of the attention it ought to get, writes Eben E. Rexford in New York Tribune Farmer.

This is all wrong. Whether gardening is conducted on a small or an elaborate scale, it ought to be done well. It must be done well if success is to reward our efforts to grow vegetables or flowers in a satisfactory manner.

There is nothing difficult about gardening if one goes at it in a right manner. It is a perfectly simple process. The amateur wants to get the idea out of his mind that there is a "knack" about it. All there is to do is to prepare the soil for the reception of the seed or plant and see that it is kept in the proper condition for plant development during the season.

Most flower gardens are so small that spading will take the place of plowing in them. This is really the most satisfactory method of turning up and pulverizing the soil, for the employment of a horse always results in more or less injury to the sward about the garden, and often to the shrubs and hardy plants growing near it. A man can spade up as much ground in two hours as the average woman will be able to take care of. If the man doesn't happen to be available a boy can generally be hired to do the work for a small sum.

The soil should be turned over to the depth of six or eight inches. Aim to bring the lower soil to the surface and bury that which most likely has the seeds of many weeds in it.

When the beds are spaded up apply fertilizer liberally. This must not be construed to mean excessive fertilizing. Too much manure will result in a luxuriant growth of plant and a few flowers. What is meant by "liberal" fertilizing is a sufficient amount to bring about a vigorous, healthy plant growth. Soils vary in different parts of the country, and a fertilizer that does good work in one place may be comparatively worthless in some other locality. Here is where the value of advice from some one familiar with the soil in your locality comes in play. If such advice is not readily obtainable it will be safe to make use of bonemeal, as this fertilizer almost always brings about good results on nearly all kinds of soil. If your garden seems to be of ordinary richness a teacupful of bonemeal to a yard square of surface will be ample. If it is very poor use a teacupful and a half. Scatter this over the soil as turned up from the spade and then go to work with hoe and iron rake to make that soil as fine as possible. There is no danger of overdoing this part of the work.

I would not advise sowing seeds in the beds where plants are to blossom. I would make a bed for seedlings, from which they could be transplanted later on. This because such a bed need not occupy much room, as the seed can be sown in rows close together, and the work of weeding will be reduced to a minimum. Concentrate your attention on the seed bed, therefore, as long as possible, and thereby save a great deal of work for yourself. Transplant your seedlings when they have made a second or third pair of leaves. They will be large enough to work around out danger of unrooting them with weeds—a risk which one always when seed is sown directly in bed where the plants are to bloom it is often quite difficult to tell w is weed and which is not.

Transplanting should be do [illegible] cloudy day, if possible. If the we er is bright and warm, do yo [illegible] planting after sundown. Lift [illegible] lings with some earth a [illegible] their roots, and be careful [illegible] turb those roots as little as [illegible] Water them immediately aft [illegible] ing. If the next day is sunny [illegible] them. I make a good shade f [illegible] set plants in this way: Fro [illegible] brown paper I cut circular [illegible] or twelve inches across. Th [illegible] a cut from the other edge [illegible] cle to its center. I fold the p [illegible] itself where this cut is ma [illegible] a sort of umbrella, and in a through this fold I run a w [illegible] wire answers a double p [illegible] holds the paper in its umb [illegible] and it becomes a support [illegible] shade when the lower e [illegible] thrust into the ground clo [illegible] plant. It will be understood [illegible] fore, that this wire ought to [illegible] or fourteen inches long and it [illegible] be large enough to hold [illegible] rigidly in place. Such a shad [illegible] the sunshine away from the [illegible] and does not interfere with a [illegible] culation of air about it.

Most persons have a dis [illegible] pulling weeds by hand. N [illegible] work of this kind need be do [illegible] adays. There are several wee [illegible] ers on the market which simp [illegible] part of gardening wonderfully, [illegible] it expeditiously and really b [illegible] one can do it by hand. One [illegible] weeding hook or claw, cost [illegible] 15 cents, enables you to work [illegible] a plant without running any [illegible] uprooting or disturbing it, and [illegible] you can accomplish more in [illegible] than could be done in a day b [illegible] weeding. It not only clea [illegible] ground of weeds, but it stirs [illegible] to the depth of an inch or m [illegible] other weeders sold by florists [illegible] fications of this idea, and any [illegible] will be found satisfactory.

Weeding should be begun [illegible] If this is done you get the st [illegible] weeds, and you can keep [illegible] control with but little [illegible] if you let them get the [illegible] they will be quite likely to [illegible] for the remainder of the [illegible] member that flowers cannot [illegible] to satisfaction when weeds [illegible] lowed to dispute the ownershi [illegible] ritory with them. Weeds ar [illegible] sive, and they will have eve [illegible] their own way after a little [illegible] give them a chance. Keep t [illegible] developing seed this season, an [illegible] year there will be comparat [illegible] of them to fight; but allow [illegible] them to perfect seed, and th [illegible] will be well supplied with [illegible] have not advised the use of [illegible] manure simply because it is a sure to be filled with weed [illegible] making a good deal more work essary than when commercial izers are used.

Do not waste your time and on the making of "pattern" beds your beds be simple in shape, a pend on the flowers you grow in to make them attractive. An rately laid out bed may show its tern" at first, but as soon a plants in it have begun to spre outlines will be lost sight of, a one will know that there ever "pattern" to it.

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GROWING POTATOES.

Potatoes are mere enlargements of underground stems, strengthened and thickened, in which starch is stored up in such proportion, according to the characteristics of the soil and climate to either assist in its fullest development or check its ability to collect and store up starch particles. Those enlargements are known to us as potato tubers. They are not formed on the roots of the plant as some think, because it has been proved beyond all doubt that the whole of the substance contained in a tuber is obtained direct from the plant itself. This is seen when a tuber is separated from a plant. It ceases growing at once, but will, in the course of time, send out buds which in turn send forth roots not to nourish the tuber it sprung from, but in order to produce others.

Not a Root.

An instance demonstrating the fact that the tubers are formed by the plant and not by the roots can sometimes be met with in a crop, when a plant for some reason, which up to the present has not been satisfactorily accounted for, has failed to form any tubers below the ground, but has, instead, borne them on the stems and laterals of the plant some distance from the level of the ground. Were they then belonging to the roots such a thing could never happen. Again, if a potato is carefully examined it will be seen that the only thing in the shape of a root is the stem that attaches it to the parent plant, or one sent out from it on which a second tuber is formed. In no case will it be found that any kind of rootlet exists on the tuber that would be able to obtain nourishment from the soil to increase its growth.

We have seen, then, that potatoes are formed by the plants, and that they may be formed above the ground as well as below. In this matter it is as well to consider that whenever tubers are formed above the ground, or even on the surface, the results are poor, miserable little specimens that are not worth the cost of harvesting.

Must Have Air.

While air and warmth are requisite, too much would be injurious. This is proved when a tuber is planted in close, stiff soil that neither air nor heat can penetrate. It will struggle until it reaches the surface, and only then will it commence to throw out laterals on which the tubers are formed. This being so, then it follows that the proper place for the others to grow, and where they will attain the greatest protection, is just below the surface. Having decided that first, potatoes are formed from the plants themselves and not the roots ;and, secondly, that they mature to greater perfection just below the surface than above it; we will now consider the subject of planting the sets, and for this purpose we will take two kinds of soil, stiff or heavy, and loose or light soil, at the same time bearing in mind the season we plant in, wet or dry.

Moisture.

While potatoes reqaire a fair amount of moisture, still, a very little in excess will either rot the tuber before it shoots or else kill the plant in its early stages. If, however, it survives and produces a crop, the tubers will be of such a kind that they will not keep any length of time after being dug, commencing, as a rule, to rot in a few days. This being so, it follows that in stiff or heavy soils devoid of drainage, planting should never be otherwise than shallow. When the ground is wet or likely to become so during the time of growth, three to four inches deep should be the maximum, earthing them up as they grow. When the time of planting is after the wet weather has ceased and there is but little rain expected, then the sets may be planted about five inches deep, every care being taken that the surface is worked into a fine tilth to a depth of at least three inches, so as to destroy all capillary action with the surface, and thus retain the moisture. —Western Journal of Agriculture.

POISONING GOPHERS.

Strychnine is the most deadly poison for gophers and similar pests. It is usually sold in small bottles which contain one-eighth of an ounce or enough of the drug to poison one quart of corn. Put the strychnine in a quart glass fruit jar and add a little vinegar and hot water to dissolve them, after which the jar may be filled with shelled corn and water sufficient to soak the grain. One or two kernels of the poisoned corn dropped into gopher holes will soon end the life history of the animal that eats it. Don't scatter the grain on the surface because the birds will get it and thus your best friends will be destroyed. Mark the jar with a poison label so that no accidents will occur.

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THE QUESTION OF FERTILIZATION.

On page 597 is a discussion of the fertilizer question which calls for a little comment, not to defend Mr. Palmer or Mr. Palmer's paper, for neither need it, but to induce all to read carefully any communication which will lead to a more intelligent view of soil conditions. Mr. Pryse, who writes the article referred to, criticises much of our literature on fertilization, claiming it to be impracticable. He wishes "something scientifically accurate and specifically workable." We believe that to be exactly what Mr. Palmer's paper is. He says he wearies of vague references to "Humus," "nitrogen" and "potash," etc. He says "humus is simply Latin for vegetable mold." Webster says it is soil from decaying vegetable matter. Either is good, but why not, when all understand the use of the word "humus" with its five letters, use it instead of the greater number which he might prefer. "Nitrogen, potash and phosphoric acid is the trinity which is essential to plant life." Therefore, discussion of them is eminently proper and we believe will lead to better understanding of requirement of trees and crops.

Mr. Pryse does not believe in cover crops, or at least is not convinced of their worth, and gives an incident where an unfortunate allowed his ground to become so hard that it was impossible to plow it under. This was a mistake and, of course, the fruit grower had to suffer for it. Those who believe in the cover crop say it should be plowed under by the last of January or the 1st of February. As this period was before the last very heavy rain there was no excuse whatever for any grower allowing a cover crop to remain until his ground hardened. For he could have even allowed the cover crop to remain unplowed until the end of February or the 1st of March of this year and still plowed under with the soil in fine condition.

The best argument of all, however, in favor of cover crops is the fact that many of the most successful orchardists in the State are finding that they are making them money. That is the best argument for any line of culture in orchard or field. Mr. Pryse is located at the gates of the city of Los Angeles where manure may be had for the asking, providing he will haul it away. A great number of the orange groves of the State are 60 or 70 miles away from a section where large quantities of stable manure are produced. It means shipment by freight, consequently high price for stable manure; yet, it is used by many with success as to net returns. The point we would make is, do not condemn what others are using to make the soil give forth abundant crops of fruit which bring great wealth, but proclaim what our own methods may accomplish which is the best argument.

Regarding the suggesstion that the Cultivator establish a "soil doctoring" department through which analysis of soils may be obtained for reasonable charges, we may say that the State University now gives an analysis of the soil of any orchards in the State without any fee. As soil analysis is quite an expensive proposition it would be impossible for the Cultivator to do it without some fee which would be needless to attempt in face of the free service now rendered by the State. Regarding discussion of these questions, we will be glad to have Mr. Pryse and others use the columns of the Cultivator in a way to bring out the truth.

NAME YOUR RANCH.

There is more than sentiment in having a name for the home ranch. We believe it gives a commercial value to a place and we are sure it adds to the pride and interest in a place to have it spoken of by some attractive name. For a family to refer back to its old "Wayside Home" where the children were born and where many happy days were spent, is always a pleasure and usually gives a name which stays by the place, and instead of its being dubbed "Jones' place" or "Brown's place" it has a name and character of its own.

We note exchanges in Washington speak of the custom becoming very common amongst many of the ranchers in that section, and we give herewith some of the names which have been applied to ranches. Should Cultivator readers have taken up this plan of naming the place and send to this office the name chosen for the ranch and the name of the owner we would like to make and publish a list that there may be as little duplication as possible. A name which is descriptive is always nice, but there are many others which give attractiveness to the farm. The names chosen by the Washington ranchers are as follows:

Cherry Hill, Fernwood Cabin, Garden Spot, Sylvan Lake, Cedar Creek Stock Farm, Blue Grouse Ranch, Green View Farm, Lorraine, Mountain Pass Ranch, Brookside, Fair View, Little Spokane, Hill Top Farm, Red Apple, Lake View, Ridgeway, Snowflake Farm, Sunny Crest, Shadydale, Mountain View, Echo Ranch, Woodland, Lone Maple, Spring Dale, Springland, Fairview Fruit Ranch, The Poplars, Valley Home, Castle Rock Farm, Canyondale, Cottage Grove, The Old Homestead, Melon Hill, Grand View Villa, Emerald, Latah Park Farm, Knob Hill Fruit Farm, Cloverdale Farm, Green Mountain Home, Sunnyside Farm, Mountain Lake, Cold Spring Ranch, Mountain Gem, Shadow Brook, Railroad View Farm, Cold Springs Ranch, Shady Lane Farm, Sandy Land Farm, Clover Vale Farm, Locust Grove, Elysian Homestead, Valley Ranch, Lone Poplar, Aspendale, Locust Grove, Big Flat Ranch, Rose Hill, Black Butte Farm, Sunny Point, Eureka, Travelers' Home, Mountain Home, Park View, Glendayle, Healing Oil, Lakeview Farm, Kootenai Ranch, Big Windy, Variety Ranch, Pioneer.

The press of the State has, as a rule, expressed pleasure that inasmuch as the Governor of this State could not attend the Governors' Congress called by President Roosevelt, the State was ably represented by Ex-Governor Pardee.

A NEW POULTRY WRITER.

The manner in which the business Cultivator is increasing is very gratifyin management and at the same time more perplexing to the heads of the various ments. It puts upon them questions of ment and an amount of work which is a capacity. The advertising department conducting of the poultry page of the Cu has in the past been in the hands of M Thomas. His larger work has been in th tising field and its increasing duties ha compelled the relinquishment of this depa He will, however, continue to contribute of special interest to fanciers.

The gentleman who will now take charg poultry department will be Dr. S. S. T for four years professor of agricultural ch and of stock raising at the San Luis Obis technic School. Prior to that time he w Purdue University, University of Arka the Utah Agricultural College. An ad drill which Dr. Twombly has had which in his work with Cultivator readers has work in the Farmer's Institutes of this These responsible positions certainly indi Twombly's capacity to furnish the C readers with the best of information in try industry and to answer such quest may be sent in along the lines of practic in the poultry yard and also the scienti tions which puzzle so many of our bes raisers.

FOOL HARDY.

It would naturally seem that the in the State of California to import anyth Florida would be Marysville, after its bitt ience of a year ago, when many of its tr almost wiped out of existence by the against the White Fly which had been in from Florida. It now seems that that c will prove very successful, and it is pos fly may be exterminated, but, in any case struction of beautiful shade trees and th the eradication both to the State and county has been immense. That campa made necessary by some one sending to for plants which brought the pests with

Now another lesson is wished by a ma ceived 1500 pineapple slips. They are re have been infested with some "obje bugs." Whether the bug was objection whether there were any bugs upon it is n tor in the case, for the State has a q against the introduction of any plant fr ida. Any one who will aid in the introd any plant from that State and jeopar greatest industry is either densely ignora a well-wisher of the State.

AN IMPORTANT MISSION.

It is impossible to predict the the trip of G. Harold Powell to Paris next ber. He goes as a representative of this the International Congress of the Ref Industries. This congress is called for pose of discussing various matters conn refrigeration and in connection with c cold storage warehouses, food products frigeration engineering It will be partic by all nations.

As said, it will be impossible to predic sult of Mr. Powell's trip, but from his gr in America in giving apple growers and growers points which have saved million lars to this country, we believe he will to give information even to Europe. Tr to gather in ideas which will be given when he returns.

ABOLISH THE RACE TRACK GAM

It was a stain upon the fair na State that for many years gambling mitted and even encouraged in connect the State Fair every fall. Fortunately been ended, and the State is now discu advisability of ending similar gambling which are in their season in full swing. tracks near San Francisco and Los These places have been the cause crime, even of murder, and to permit th tinuance in this State is a disgrace whic not be tolerated.

Agricultural Notes of the Pacific Coast

Northern California

Rice crop near Biggs is looking ell.

Newcastle cherry pickers are busy eople these days.

Sutter county will have an unusual op of peaches this season.

Cherry shipments are now moving rward with great rapidity.

Prunes in Napa county will be out three-fourths of a crop.

The cherry crop of the Sacrmento lley will be exceptionally good.

Fruit men are elated over the heavy op on the trees near Placerville.

Fire recently destroyed large raisin yer near Davis in Solano county.

Sacramento Valley alfalfa fields are tting heavy crops for first cuttings.

Woodland promises to harvest its ggest crop of fruit ever harvested.

Apples, plums, almonds and apri- ts will be a full crop in Napa coun-

Arrests have been made for cut- g irrigating ditches in Butte coun-

Almonds over the entire Sacramento lley promise an exceedingly heavy op.

Seven dollars per ton is being of- ed for alfalfa in the cock at Marys-

kiah Vineyard Association reports young vines as making a fine wth.

Apricots will be smaller than usual e, but the crop as a whole will be nense.

runes at Woodland are rather a rt crop, but apricots are excep- ially heavy.

pper Mattole had a rainfall to 1st of 78.67, which is 23 inches rt of last year.

alifornia Fruit Canners' Associa- will soon begin operations at its ta Rosa branch.

buyer is endeavoring to induce ners near Marysville to take up growing of flax.

uba City farmers find buyers for l rather scarce and have deferred l sales until June 6th.

noma county makes the boast that county never had, and does not l, a single irrigating ditch.

armers about Yuba City have l in that place 400 bales of wool, h are pooled in one bunch.

acer county creamery is making 500 pounds a day, as against ton a day earlier in the season.

e first arrest to be made under new State law compelling dip- of sheep was made at Cotton-

rndale has the contract to de- to the navy at Mare Island Navy on June 10th 100,000 pounds of r.

e Sacramento Valley Sugar pany at Hamilton City promises en up another tract of 5000 acres nd for settlement.

orough inspection of orange trees iba City is soon to be taken up to mine as to whether there are white fly there located.

owers which struck nearly all of acramento Valley last week did good to later sown crops and did damage to hay already cut.

Central California

Salinas has a rainfall record of 11.13 inches.

Cantaloupes are setting nicely near Turlock.

Lemons near Exeter are setting exceptionally heavy crop.

Prospects for a good fruit crop at Tulare are very flattering.

The Merced cannery, which is now building, is progressing favorably.

Never before has Tulare county been promised a greater fruit crop.

Four Armenians have leased land near Exeter on which they will grow tobacco.

It is predicted that about half of last year's prices will prevail for dried apricots.

Hanford fruit growers are studying the proposition for securing white labor in their orchards this summer.

Farmers in the Modesto irrigation district have experimented with growing grain under irrigation this season, with complete success.

Fruit growers of San Benito county have petitioned the Board of Supervisors to retain Horticultural Commissioner Day permanently.

The San Benito Advance says that the warm weather of the early spring followed by a cold spell destroyed the grasshopper eggs of the San Joaquin valley.

Orchard City Grange at Campbell, at its meeting recently, reported hay crops in fair condition. Prune crop almost a failure. Apricots about half a crop.

The swindling scheme has been unearthed by which a San Francisco concern has been disposing of a tract of worthless land in Tulare county to Eastern puhchasers.

Castorville has a new apple growers' company organized for the purpose of packing and shipping fruit of its members. The name of the company is Foothill Apple Growers' Packing House Company.

The Pajaronian says that packing house representatives are beginning to make accurate inspection of the apple orchards to ascertain the prospective yield of each orchard in order to be prepared to bid on fruit. No sales are yet reported.

Green fruit shipments last year, including apples and grapes, aggregate 7,000 cars, bringing a return of about $10,000,000, out of which the railroads kept $3,500,000. Predictions for this year's crop are that the aggregate will be about 10,000 cars.

The San Jose Grange reports that throughout the entire valley prunes will only be about 10 per cent of the full crop; apricots 75 per cent; Freestone peaches, 75 per cent; cling peaches, 45 per cent; apples 60 per cent; black cherries, 75 per cent and pears, 75 per cent.

At a meeting of the Executive Committee of the Central California Circuit of Agricultural Fairs, held in Fresno, it was decided that the entries to the fairs should close about the middle of June. The first fair will be held in Bakersfield beginning September 14th, the next at Tulare beginning September 21st, the next at Fresno beginning September 28th. the last at Hanford beginning October 7th.

Southern California

The hay harvest is in full swing in most sections.

The new lemon curing plant has been built at Corona.

Sugar campaign at the Oxnard Sugar factory, July 1st.

Orange output of Fullerton fell 100 cars short of last year.

Los Alamitos Sugar Company has nearly 8,000 acres planted to beets.

Alfalfa has been bringing $14 and $15 per ton in Southern California.

A bee ranch at Corona was badly scorched by field fires at Corona last week.

Riverside claims the highest price of the season on navels, securing $4.04 per box.

Irrigation is being practiced on some of the beets of the Los Alamitos Sugar Company.

Tomatoes which were planted on February 12th are now bearing finely in the Imperial Valley.

Earlier shipments of cantaloupes from Imperial Valley are now being made with regularity.

Grape growers near San Bernardino have organized for the protection of the interests of the growers.

Orange county chili growers have contracted for their crops for this year at $25.00 per green ton.

Shippers of cantaloupes in the Imperial valley have put forth a bunch of attractive labels this season.

Many cabbage growers in the neighborhood of Fullerton declare they will never grow another cabbage.

The California Vegetable Union has shipped 205 carloads of cabbages from Fullerton, Olive, La Habra and Brookhurst.

There will be nearly 60 acres planted to peanuts in Orange County this year. The revenue it is hoped will reach $30,000.

Santa Ana has a fine specimen of the Leu Leucadendron Argentuen or the famous silver tree of the Cape of Good Hope.

Castor beans have caused the death of one woman of Los Angeles and others have been seriously poisoned by eating them.

The big grain fields are not all wiped out in Southern California as is proved by the recent purchase of a combined harvester by an Orange county farmer.

The injunction which stopped the waste of water into the Salton Lake has been so modified that Imperial valley towns are now enabled to use their electric plants.

The old scheme of a California auction for oranges to be located at Colton is again talked of, the claim being put forth that California should be the greatest orange marketing center of the world.

The experiments with the long fiber Egyptian cotton, having proven so successful at Yuma, extensive plantings will be made at Coachella and Imperial valleys.

It is thought that the big Schiappa Pietra ranch in Ventura county will be subdivided and sold in parcels on account of the death of the former owner. The valuation of the ranch is $1,055,000.

The Coast

Eggs at Tacoma, Washington, are now selling at 20 cents.

First wool sold at Toppenish, Washington, was on May 19th.

North Yakima will ship 3000 carloads of green fruit this season.

Dry land alfalfa is becoming a feature of the great Inland Empire.

The prune crop of Oregon will be far below the average production.

Hood River section will market about 75,000 crates of strawberries.

There is much friction between stock men and rangers of the reserves in Colorado.

The first crate of strawberries shipped out of Washington sold at Olympia for $11.

The Swift Packing Company will erect a $3,000,000 packing plant at Portland, Oregon.

Kennewick, Washington, is calling for berry pickers to assist in gathering the immense crop.

A seven-acre farm near Milton, Oregon, recently sold for $7000. Land is not so cheap in Oregon.

Dry farmers at North Yakima found their later crops greatly benefited by a half-inch rain May 15th.

Farmers at Pullman, Washington, are delighted with the heavy rainfall which came on May 19th.

It is now claimed that Lewiston, Idaho, will ship more than 100 carloads of cherries this season.

Between 75 and 100 tons of wool will be sent out from the local warehouses of Toppenish, Washington.

Attacks of green aphis which were made on the orchards of North Yakima did much injury to fruits of all kinds.

Large numbers of Shorthorns and Herefords were recently sold at a thoroughbred stock sale in Portland, Oregon.

The membership of the Oregon State Grange is now 7009, divided up among 120 grangers located in twenty-one counties.

Prune growing districts about Salem, Oregon, have been seriously injured by late frosts, especially in low lands.

Frosts in Eastern Oregon did some damage to prunes, but did not injure young growing wheat as was at first anticipated.

Dairymen near Victor Point, Marion county, Oregon, recently held an enthusiastic meeting discussing the "$100 cow."

Rain in the Yakima valley aided very materially in the control of the woolly aphis, which was seriously affecting the apple orchard.

Over 20,000 acres of land is to be reclaimed by the Umatilla irrigation project in Oregon. The water will first flow over the land on May 27th.

The Oregon State Grange has passed a resolution favoring the principle of co-operation, also of consolidation of school district within the county.

The annual meeting of the Stevens County, Washington, Horticultural Association passed resolutions that the executive commitee meet in December and inaugurate a winter campaign of lectures and institutes.

PER 2 BUSHEL SACK **$1.90** **PER 2 BUSHEL SACK**

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

The Jubilee Incubator

Has proven a winner. Ask the colonists who are using them.

Coulson's Special Chick Food and Egg Food
always in stock.

Poultry and Stock Foods. Sole agents for International Stock and Poultry Foods, Kow Kure, Coulson's Egg Food, Darling's Beef Scraps, Chamberlain's Chick Food.

Seeds, Plants and Bulbs
Write for our 1908 Catalogue

GERMAIN SEED COMPANY
326-330 S. Main St. Los Angeles, Cal.

Little Chicks should be fed on Excelsior Chick Food

prepared from clean, sound grains, seeds, beef scraps and charcoal in proportions to make a well balanced ration and produce strong, healthy chicks and keep them continually growing. For sale by all dealers and grocers. Take no other.

Excelsior Cereal Milling Company
242 Central Ave., Los Angeles

Ranch Mirasol (Lincoln Avenue Poultry Yards)

S. C. White Leghorns---Mitchell Strain

Eggs for Hatching

Our birds are not the culls and accidents of the fancy breeder, but have been bred for generations for a definite utility type to lay both quality and quantity. They are selected by the Hogan system and mated by Standard requirements. Ready for delivery January 1st. Order books now open.

Carl C. Curtis, Owner, Lincoln Avenue and Ventura St. **Pasadena, Cal.**

ALTADENA CARS

Trap-Nested White Wyandottes

That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen, contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribbons, all at Los Angeles County Poultry Association Show, December 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah. Hens and Pullets, $15 and $30 per dozen.

MISSION VIEW POULTRY RANCH, MRS. C. D. HUBBARD, SAN FERNANDO, CAL.

Profit in the Poultry Ya

We solicit short articles of a practical nature from the fancier and u
breeder, giving their experience with poultry. All inquiries pertaining to
management, disease and its prevention will be answered through these col

BRAINS GOOD FOR POULTRY.

MANY people want to go into the poultry business simply for an occupation. As one remarked to us recently, "wanted something to do out of doors." When asked if he knew anything about poultry he admitted he did not, and further did not know whether he would like the business. Thought it was easy work with good pay and did not require much capital.

Now, here is what we consider a sure failure, we have seen it tried so often and almost every time with the same result. Not long ago we read a letter in one of our exchanges where some one was taking the poultry journals to task for misrepresenting the poultry business and only showing up the bright side. It said many were persuaded to go into the business on misrepresentations.

Now, let us get down to facts. How many people are there who would go into any business unless they knew something about it? To be sure the press gives the best side, but we don't believe they intend to misrepresent the industry. "The best" is possible to all.

If those going into the breeding of poultry will put the same amount of brains and energy in the breeding of poultry that would be required to make any business go these times, we know that they will succeed.

Love Them.

To make a success with any variety of thoroughbred poultry we should first have a love for the variety we choose. Then we should study the characteristics of the breed and the standard requirements. In this way we can learn what we want to produce and will know when we produce it.

That there is good money in poultry when properly managed is being demonstrated every day. It does not take an expert to see that the men or women that use brains in poultry are the ones who are producing the prize winners and getting business and profit.

* * *

AROUND THE YARDS.

Never stunt the laying hens.

* * *

Sow a small patch of rye or alfalfa now for green food.

* * *

Plenty of time to hatch yet if you failed to get as many as you want.

* * *

Oats is a good food for growing stock, but should not comprise the entire ration.

* * *

Don't let the lice worry the life out of the little fellows, and then complain of "bad luck."

* * *

Picking Each Other.

I have some incubator chicks that pick each others toes; anything that resembles blood drives them wild it seems; fed them meat but thought it made them worse. Will you kindly tell me the cause and what it is they require? It is the first time have ever had that trouble.—Mrs M. F., Anaheim.

The cause of the chicks picking each other is lack of animal food. Feed plenty of meat and beef scraps. It may be necessary to remove the worst from the brood as tl
very hard to break of the hab
once started, and care sho
taken to prevent rather than t
cure the habit.

* * *

Black Combs.

We have noticed for the
weeks the combs of our c
are slighly discolored, turni
and in many cases have a te
droop. They are S. C. Wh
horns; are about four mon
For the past month they ha
fed almost exclusively on whe
ing it from the stack; beef
charcoal and shell are before
the time in hoppers.—H. H
side.

Your birds have indigestio
trouble, which is caused by
too narrow ration or too r
Change the food, feeding on
different ration with plenty
food and good sharp grit,
think you will have no
trouble.

HISTORY AND ORIGIN S. C. BUFF ORPINGT

Although the S. C. Buff C
do not have the distinction
the first of the Orpingtons to
nated, it has a better distin
of being by far the most pop
the ten varieties. The first
Buff Orpington fowl cam
originator, the late William
far back as 1880, and for
after this time he was gettl
the finest laying strains o
Cochins. It was in 1885 tha
started in to make the Bu
tons. With his ideal alread
out, Mr. Cook knew what h
ing to produce, but of cours
tell how many years it w
some breeds are produced
but such is not the case
of the Orpingtons. It migh
tioned at the time referred
a Buff fowl was very popu
Cochins were kept, but p
not satisfied with their sl
and their poor laying quali
idea of the originator was t
fowl with a Buff color, but l
the best layer, the quicke
the hardiest, best winter
yet large and handsome in
He was more than succes
Buff Orpington possesses
qualities, and is recogni
world over as the best gen
fowl that exists. In 188
started by mating Golde
Hamburg cocks with Colo
hens of good size; these
the finest laying strains.
from this cross came of
brown color, which were
Cochin cocks which had
the best layers, it havin
years to get the laying
gether from which the
The Hamburgs were
cause they laid more
other breed of fowls th
and also for their beauti
fect shape. The Dorking
get the length of breast
quality of meat. This br
ways been considered the
ble purposes, and when
the Hamburgs made marv
Cochins were used for th
also for their good winter
ties. When one stops

Imported
ylesbury Ducks
Winners at Crystal Palace and leading shows in England.
Also at the State Fair, San Jose and Oakland, 1906.
Also State Fair and San Jose, 1907.
Stock for sale and Eggs in season.
Vincent G. Huntley
Petaluma, California
lso Breeder of Buff and Black Orpingtons and Barred Plymouth Rocks.

HICKS
Rocks, Reds, Wyandottes, Orpingtons, Black Minorcas, now $12.50 per 100. Brown Leghorns, $11 per 100. White Leghorns $9 per 100. Thousands hatching all the time.
PIONEER HATCHERY CO.
South Main Street, Los Angeles, California

lack Minorcas
Exclusively
irds That Lay and Win"
Vinnings at Los Angeles, . Ccċks, 1 2, 4, 5; Cockls, 1, 2, 4, 5: Hens, 1, 2, 3, 5; lets, 1, 2, 3, 4, 5. Pens, 1, 2; for highest scoring Minormale in show. Stock and s for sale. Catalogue free.
.Wheeler, Box 123, Lordsburg
HAWHEELER

East Side Poultry Yards
Barred Rock and Buff Orphington Eggs
cks hatched to order. We have taken the utt care in procuring pure stock, also selected the "Hogan System". Visitors and corresdence solicited.
. J. Look *No. 16 Hancock St. E. San Jose, Cal.*

WINSLOWS REDS EXCEL RHODE ISLAND REDS Red Bantams FEATHER POULTRY YARDS
WINSLOW'S REDS The bird for the Farmer and Fancier.
Write for 1908 Mating list.
Red Feather Poultry Yards
Dr. C. E. Winslow, Monrovia, Cal. Send stamp for Red Standard.

EAST SAN GABRIEL EGG RANCH
. White Leghorn and Barred Rock Eggs for ching, $1 per 13, $5 per 100. Won 12 ribbons st Breeders Show on White Leghorns. Prize ners, $2 per 13. All hens in our breeding pens selected, 2-years-old, and are great egg proers.
anson & Johnson, San Gabriel, Cal.
Gabriel Car to Masonic Home then 2 blocks South

FOR SALE
e dozen well-bred, Great Layers, ite Minorca Hens. One-year-old. .00 per dozen. Five males $2.50 each.
S. W. Morgan
Sunnyside, Cal.

Petaluma Hatchery
the leading varieties of chicks. e bred White Leghorns a specialty.
L. W. CLARK
Main Street, Petaluma, California

aldwin's White Leghorns
First prizes San Jose '06, and State Fair '07
Three 1sts and special, San Jose, '07.
ee 1sts, three 2nds and $50 Cup best display Petaluma '07.
Send for free '08 Catalogue and price list.
Frank E. Baldwin
Washington Ave. - San Jose, Cal.

HOMERS
Prolific Breeders
Winner of 1st pen at Breeders' Show
Satisfaction Guaranteed
C. E. Bunker
San Jacinto, Cal.

Indian Runner Ducks
Black Langshans
Stock at less than half price to make room for youngsters. Runners at 75c and $1 each. Langshans at $1 and $1.50 each.
YDE J. MOSS Corona, Cal.

Mongolian pheasants placed on a ich near Colusa are said to be incasing rapidly.

what had to be done to produce the Buff Orpington, Mr. Cook's perseverance and patience can well be appreciated. The Hamburg had blue legs, white ear lobes, and black tail; Dorking had black tail and five toes on each foot; Cochin had yellow legs with a lot of feathers on the same, and yet the perfect Buff Orpington has white or pinkish-colored legs, free from feathers and Buff color throughout.

It was in 1894, at the Dairy Show in England, that Mr. Cook first presented the Buff Orpington to the public. At this time he had about 2000 first-class specimens. All that he could sell were purchased at once, and orders for eggs were booked from the many thousand of others who wanted them. There is not the slightest doubt that if he had had 10,000 birds at that time, it would have been an easy matter to have sold them all. In the history of poultrydom the advance of the Buff Orpington stands absolutely alone, not another breed can begin to compare with it for popularity and usefulness. It will not be very long before there are more Buff Orpingtons bred in this country than any other breed. Single specimens have sold for $750, and quite a large number change hands at $500 each. It is very much easier to make money out of chickens in this country, since the arrival of the Buff Orpington. There is a ready market for good breeding stock at all times at good prices, also eggs for hatching. We do not know of an Orpington breeder who has been able to fill all his egg orders during the last season, the demand being much greater than the supply. We should strongly recommend all who keep the Buff Orpingtons, or who have any intention of keeping them, to join this club, as by doing so their knowledge will be much benefited, and if you are in the business it will help you.—Percy Cook, in Poultry Item.

A. P. A. ELECTION.

At the annual meeting of the American Poultry Association the officers elected were as follows: President, Chas. M. Bryant; first vice-president, H. B. Donovans; second vice-president, Miller Purvis; secy.-treas., Ross C. H. Hallock; Members of executive board: George S. Barnes, Reese V. Hicks, T. F. McGrew. Here is a good set of officers as any association could ask for, and one that we believe will do good work for the association. We never saw so much mud throwing as was done by the opposition to the election of Mr. Hallock to succeed himself to the office of secretary-treasurer. Mr. Rankin conducted the fight against Mr. Hallock and brought the White Wyandotte Club into the row and tried to line up every poultry journal in the country. This paper got enough matter from him to half fill one issue, which we consigned to the waste basket.

PACIFIC CORNISH FOWL CLUB.

A meeting of the Pacific Cornish Fowl Club was held Wednesday night April 29th, 1908, at the office of its President, Capt. T. H. Broadhead. After reading the minutes of last meeting and roll call, a very interesting discussion took place. The report of the secretary-treasurer showed a very healthy condition of club affairs. All bills paid and a balance of cash and stationary on hand to the value of $35.00. New members are coming in fast and the outlook is favorable for a membership of 100 in the near future. Twenty-five new members were elected.—John D. Mercer, sec'y.

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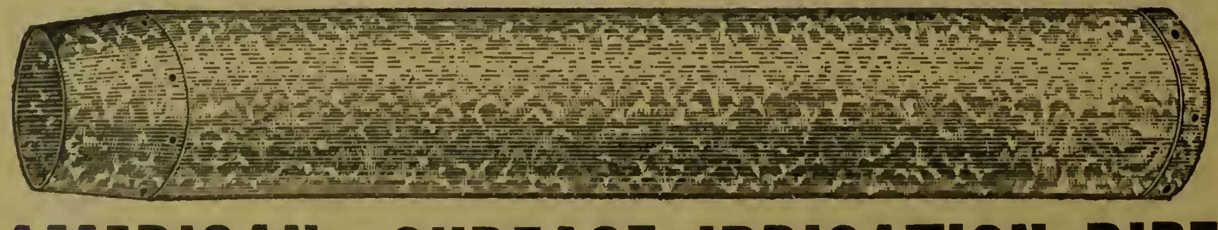

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HORSE RAISING.

MATE up the young colts when first broken and keep them together at work. The stride then becomes alike and the team pulls together. The stepping together of a pair of horses comes easily to them if they are constantly driven or worked together. The load moves easier than where horses are mixing their strides. Carriage horses swinging along at the same step make the roads seem smoother, as the ruts and bumps are taken together and the carriage is borne along with slight jolts as the even pulling lifts it from the ruts. Change one of the horses for another and the same carriage and the same road will be found full of bumps.

Harness Styles.

The harness of many horses is incorrect from a point of easy work and of good taste. Now, take the breast strap harness or Dutch collar; these belong to the light buggy not to the surry carrying three or four people. The horse works to a great disadvantage in drawing a load on the narrow single strap instead of on the collar, where his strength is evenly expended. Really, I think that the breast strap, unless it is the very wide one that is in use in foreign countries is on a horse drawing a load, a real cruelty. It is one usually perpetrated on the gentle family plug. Then on the family surrey horse we often see the over-draw check used. This makes a ridiculous hitching up to any one that has had any ideas of style in turnouts. The absurd look of a horse in a heavy rig with his nose sticking straight out in the air, and his hind legs sprawled out to relieve the strain as he stands. It is like a bare necked woman with a diamond necklace and a calico dress skirt and brogans.

Check or Bearing Reins.

While many people advocate the entire removal of this part of the harness, the majority of horses are best driven with a loose check line. The horses that are not very sure footed are apt to slip around more and it is harder on the driver too, carrying their head on the reins all the while. Then, in California particularly, we decorate beautifully our parking with grass and flowers. A few horses without check reins would soon spoil these jewel-like settings of the bald gray pavements. The overcheck belongs to the track horse and very light road wagon. Surry, phaeton and heavy buggy should have the side check reins only. The breast strap, also, belongs to the light rig only. Remember, that correct style is as important for your carriage as for yourself. Silver mountings are in better taste than gold on harness for the family pair of horses. The carriage horse, with side checks holds his chin down and under, putting a bow into his neck. He can see his own front feet if he desires to do so. This is a different position from the overdraw rein, with the straight neck, nose straight out and the front feet as the horse moves apparently dangling. In this ungainly position he starts off with a shambling fox walk, you have the ungainly picture completed. Look at the carriage horse; the head is up, nose under and off he walks, front feet up with knees lifted, well flexed pastern joints; hocks coming up in well rounded action. The front action square and true with the knees rolling the feet out straight ahead, hind legs and front legs rolling and unrolling in rythmetrical precision. From the walk the gait quickens into a smooth trot, clean and true. Hind legs following squarely behind the front ones. So he moves on in stately fashion full of dignity and pride.

Blinders.

The lazy horse without blinders watches for the hand that reaches for the whip. The high mettle one may become a side puller as he tries to escape from the whip. Side pulling is regarded by many horse men as caused by the open blinds. Like tongue lolling it is a hard vice to correct once a horse has learned it.

As a matter of convenience, every horse should be carefully saddle broken. Many may never be ridden yet it is easier to handle horses that will carry weight on their backs if it is needful. After the colt has been well trained into his harness work, saddle him up. After he has become steady under the saddle, with an ordinary straight rein and snaffle bit, and cross the reins under his chin and make him bridle wise. When this lesson is learned perfectly then put on the regular Spanish bits and the horse will rarely learn to buck. Gentle manners in the trainer, like good manners everywhere, are quickly reflected in the horse that he handles. It is one of the things that makes good manners weigh heavily as an investment. Even the animals give us back the same as we give them.

Saddle Horse.

The Bible describes the war horse fittingly, yet who has even described the pleasure that a good intelligent saddle horse gives his rider? I have felt I was fortunate in being brought up from a child in company with a good saddle horse. The lessons in courage and self reliance that a horse teaches a child, are valuable all its after life. A dog may be a good companion for a child, yet not the equal of a horse. It is in these things that the country child is more fortunate than the child of the city. At the little district school house I see the children starting home on their ponies, ten or twelve in a bunch. They are a hardy, happy lot as they go racing off on the little wooly shetlands. These are not wealthy families; only vineyard folks. Yet a pony or two does not matter much in the stable. The luxuries of wealth are within the hands of the country dwellers when they know how to grasp and enjoy them.—M. E. Sherman.

RAISING THE CALVES.

The only argument in favor of taking the calf away as soon as practicable after birth and before it nurses is that if taken away then the calf can be taught to drink more readily than after it has had an opportunity to get its nourishment for a time by nursing from the udder. It is also thought by some that the cow gives up her calf at once with less grief than where she has been permitted to enjoy it for a day or so. The writer leans to the former method of management. Even though it means more work for the attendant, it is

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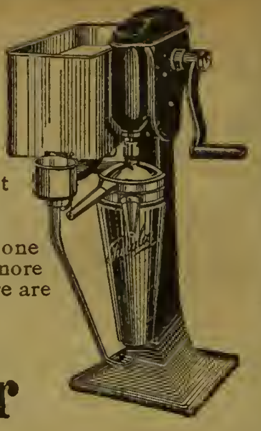

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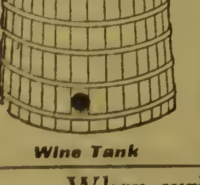

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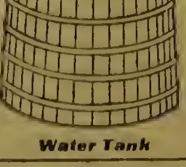

Water Tank

better for the calf. It is possible that a compromise method advocated by some is better than either mentioned. This method is to allow the calf to nurse once and then remove from the cow. In either instance, the calf must receive the first milk of the dam. It is well to let the calf get hungry after first removing from the pail. If the calf is strong a fast of 24 hours will bring the desired appetite. The calf should be fed whole milk for the first three or four weeks, two or three times a day. If a large calf, two quarts in the morning and evening and one at noon should be fed; a small calf should have only three pints in the morning and three pints in the evening and a quart at noon. It is better to feed milk immediately after being drawn from the cow. At the end of the third or fourth week the substitution of skim milk may be begun, as also feeding twice instead of three times a day. This should be brought about very gradually.

The first time any substitution of skim milk for whole milk is made, let one-half pint of skimmilk replace an equal amount of whole milk. The next time feed a pint, and so on, making a half-pint additional substitution with each feed. By following this method from 10 days to two weeks will be required to get the calf safely accustomed to skim milk. A teaspoonful of ground flax mixed in the skim milk is excellent. If any tendency to scour occurs, a small amount of blood flour mixed in the milk will check it. After the change has been effected the skim milk and the ground flax may be very gradually increased until at the age of four months the calf should receive a heaping tablespoonful of flax and meal and five quarts of milk twice each day. Do not forget that 10 to 12 quarts of skim milk per day is a full feed for a calf 5 or 6 months of age. When the calf is 3 or 4 weeks old it should have an opportunity to learn to eat oats, bran and corn. Professor Shaw, of Michigan, recommends the following mixture for this purpose: Corn meal three parts, oats three parts, and bran one part, by weight. One part oil meal should be added to this if no ground flax is fed as suggested above. The calves may be induced to eat this mixture by dropping a tablespoonful of it into the pail after the milk is gone. Do not sicken them by feeding too liberally.

They should also be encouraged to take a little silage and nicely-cured clover or alfalfa hay. As to the amount of concentrates fed, Professor Shaw says: "In general, about three-fourths pound concentrates per 100 pounds live weight, varying some, of course, with individuals." As a general practice, we strongly advise against mixing grain with skim milk for calf feeding. They should be fed separate as advised, with the possible exception of the small amount of flax meal mentioned. One essential point in calf rearing is frequently overlooked—namely, the supplying of an ample quantity of fresh, clean water, within the reach of the calves at all times. Some use a hog-waterer for this purpose.—Professor H. W. Mumford, in Beef Production.

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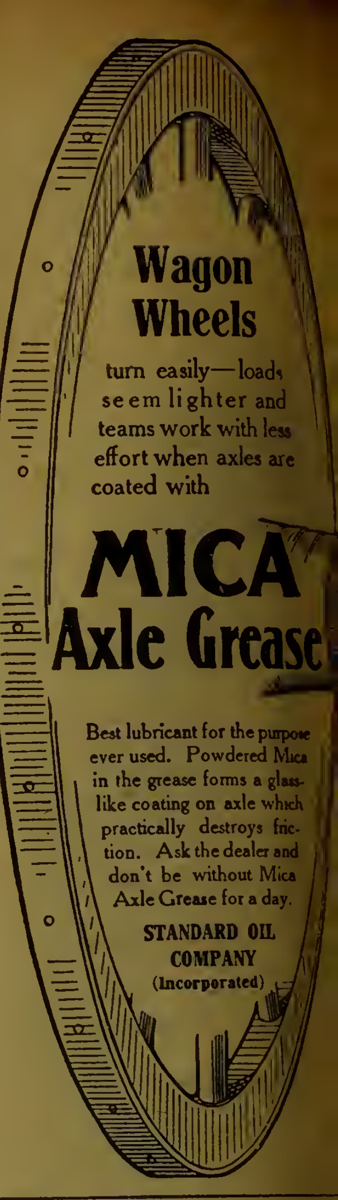

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COST OF BUILDING A CREAMERY.

ing the past few years there been built in the United States al thousand creameries, many of have been successful from the while others have failed after a ionths' operation, and some were even started.

investigation of the creamery ss in several States by the l States Department of Agricul-as shown that the cause of of the failures was due to lack ufficient number of cows, which l not be less than 400, and that failed because of improper or-tion, in the case of co-operative eries and excessive cost of ig. Many creameries have cost twice their actual worth, and not of the type suited to the lo-In which they were built.

cost of a building about 28x t will vary from $800 to $1400, lent upon the locality, the con-on and the cost of material bor. Such a building usually ts of a main work room, engine oiler room (including space for rator machine,) coal room, re-tor, storeroom and office.

hinery for a hand-separator consisting of 15-horsepower 10-horsepower engine, combi-churn with a capacity of 600 of butter, and other necessary tus, will cost approximately Machinery for a whole-milk will cost about $1850. This ient will handle from 1000 to ounds of butter per day. If a rating machine is included the ill be from $600 to $1000 more. total cost of a creamery would, re, vary from $2000 for a sim-id-separator plant without arti-efrigeration, where labor and il are cheap, to $4250 for a nilk plant including artificial ation and a higher cost of nd material.

Department of Agriculture is d to furnish information for per organization of creameries eese factories, and upon re-vill supply plan of organiza-st of machinery and plan for ry. Correspondence should be ed to the Dairy Division, States Department of Agricul-ashington, D. C.

COST OF SILOING.

es have been gathered by the ent of Agriculture from about is with reference to the time or consumed in putting up si-d the cost per ton. In estimat-cost of filling a silo a rate of s an hour was made for men same for a team of horses. hire was rated at $4.50 per luding the engineer, twine at ats a pound, coal at $5 a ton, oline at 13 cents a gallon. Ten ere considered a day's work. st of silage storage, as deter-y this investigation, varied to 86 cents on the various The average yield per acre tons, and the average cost per ilage 64 cents.

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A FEW OF THE MANY

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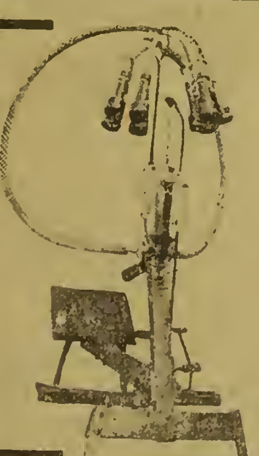

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Mehring's Foot Power Cow Milker

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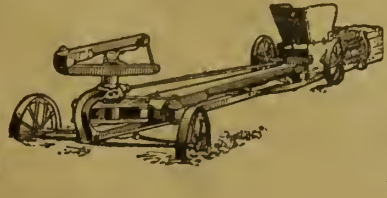

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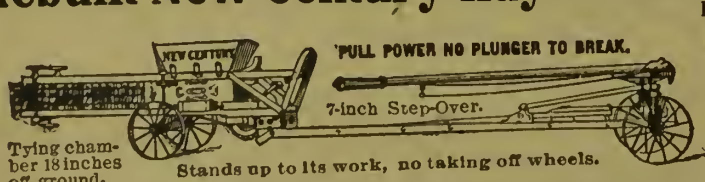
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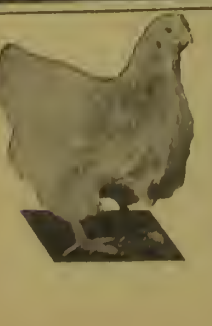

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Because he raises poultry in the Inglewood Poultry Colony. Eggs bring a higher price there than they do anywhere else. If you are going into the poultry business, go in right and get a farm in the Inglewood Poultry Colony. Address for particulars

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Queries and Replie

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Peach Troubles.

I have a few hundred cling peaches. Trees one year old. Some of the trees look like they are dying. They are well cared for and have been irrigated. The leaves lok greasy and dead. I have found ants both red and black ones on the trees, but no other insects. I would like to know if ants cause the trouble; if so, how can I get rid of them?—W. F. R., Orosi.

The ants are not doing you any injury, but their presence indicates that there may be some sort of aphis working on your trees. I do not understand why they should look greasy and dead unless they are covered with honeydew or gum. The greasy appearance would indicate the former and aphis would cause that. If you will mail a branch to the Riverside Experiment Station, we can perhaps diagnose your case.—J. W. M.

Planting Strawberries.

Tell me if it is to our advantage to plant strawberries this early if my plants are large enough. Which is best way to water same? My land slopes to south and falls about two inches to every 16 feet. Is it advisable to run small stream between rows and let it subirrigate? My soil is black loam, not 'dobe and it seems to soak well by running stream.—M., Arroyo Grande.

It will depend somewhat on how low the temperature falls in your locality. If practically frostless so that the plants will grow more or less all winter, you will get a much larger crop of berries next season than if you waited until spring. But it costs a good deal to care for the plants all winter and after trying all methods and seasons we believe to plant out about February 1st will give the best results, all things considered. In your case we should plant the rows north and south, 20 inches apart and irrigate from a flume with galvanized gates so that you can have the water under absolute control. On a grade so steep as one inch to eight feet you would have to allow but a light stream to run in order to avoid washing and cutting the soil. Do not make your runs too long. Allow one stream in every space. If your land is 200 feet long better make two runs of it instead of one; that is, have a second flume 100 feet distant from the first one.—Q. A. L.

Garlic.

How can I grow garlic? Is it as easily grown from the seed as from the bulblets? When should seed be planted and are the young plants reset? If only reproduced from bulbs, how far apart to transplant?—J. G. Baum, Olive.

Garlic is of easist culture, growing freely on any soil suitable for onions. Invariabily propagated by divisions of the bulbs called "cloves" or "sets." In California plant from September to February 1st, in rows one foot apart and four to six inches apart in the rows. Crop is harvested like onions and except in a small way always sold in the dry state. Sets can be had of seedsmen at about 15 cents per pound.—Q. A. L.

Spraying for Blight.

How can I secure the best results in spraying strawberries, and how soon after planting should it be done? The same with potatoes and tomatoes. What is the value of raisins sound, but small, for poultry?—Inquirer, La Mesa.

We do not understand what you wish to spray for on the strawberries so ask for further particulars.

As to tomatoes and potatoes, we assume you mean for blight. They should be sprayed with the Bordeaux at any time now, but would advise fuller particulars that you write Director Experiment Station Be ley, Cal., for Prof. R. E. Smith's letin on "Tomato Blight." It will fullest particulars.

We are not posted on the valu raisins, and any poultryman tried it will confer a favor b gi their results.

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

Plant Oranges in Nursery.

Kindly tell me through t q column when to plant orang lings from the seed bed. Do leaves need to be stripped and cut off?—W. B. R., Holtville.

Plants should be taken fr seed bed at once and placed in nursery row. In fact, the u perience is that March, April an are the best months for trausp They may be planted later, h but as the heat increases great is necessary. This, we think, be especially true in your s Thoroughly wet the bed in wh have been growing; soften after which a spading fork ma used to loosen the soil. Th may be lifted so as to save a fibrous roots. Grade the plants to bring the same size togethe as possible. The extra small may be put back into another desired till next year, as they m cared for in that way much than in the longer nursery row not allow the roots to become to the wind or sun more than a ly necessary. The tip of the ta may well be cut off so that planted the tap will be p straight in the soil. Do not leaves.

Acacia Cyanophylla.

Will you please tell me w acacia cyanophylla can be grow itably on $100 land? It has ple artesian water, and is very soil. I am told that it would b $25 per acre per year for lan Will the tree put forth anothe from the stump?—J. H. S., l ton Beach.

We are unable to answer this tion explicitly, but from some we think it would be doubtful paying on $100 per acre land ever, it is worth investigation. subscriber will confer a favor ing us. The tree will not gr the stump after cutting.

Wood for Walnut Grafting.

Kindly explain this parag your paper of April 30th. Th graph reads "scions should alw of solid, mature, wood; that as small pith as can be had and they must have good, livi Should these scions be of last growth?—Subscriber, Arroyo

Some growers prefer the l son's growth, others insist u being two years old, while o indiscriminately of both, so other condition of small plump bud exist. From th sume there is but slight di

Stacking for Baling.

Which is the best method o oat hay for baling? Is it stock if allowed to sweat in for six or eight weeks?

Is it advisable to put fresh on walnut orchards in the That is, to clean it once a ing in.—S. W., Carpenteri

The nutriment contained is not changed by the sweating stack, but the hay is soften made somewhat more accep stock. It costs about $1.00 p more if it is stacked, and u command that much additiona market. This is largely on a of its being cleaner, as in the of stacking it loses boulders an and dirt which are often foun

/arranted to Give Satisfaction.

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Safe, Speedy and Positive Cure for Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

s a Human Remedy for Rheumatism, rains, Sore Throat, etc., it is invaluable. very bottle of Caustic Balsam sold is rranted to give satisfaction. Price $1.50 bottle. Sold by druggists, or sent by ex- ss, charges paid, with full directions for use. ☞Send for descriptive circulars, timonials, etc. Address

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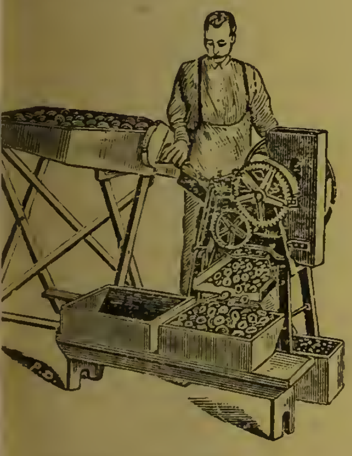

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when it is bucked directly to the baler.

A great many now advocate putting the fresh manure on the orchard direct from the stables, and disking in soon or when convenient, some even allow it to lie on the surface as a mulch. Of course, when this is done a great deal of its value is lost through its burning out under the hot sun. But in doing so it protects the soil to that extent that it may be advisable. Of course, if it is disked and the soil kept moist then it is practically all saved.

Imperial Valley.

Is there good soil in the Imperial valley for grapes? Do you consider that locality well situated as regards climate for grape culture? Has the Department of Agriculture bulletins on the grape culture of California?—E. H. G., Uplands.

The Imperial soil is good grape land. The soil of California generally is very mixed in character; while one piece may be good the next may be inferior. In buying a piece of land it should be examined for depth and for fertility. I think from driving around the town of Imperial that the soil is excellent. I saw young grape vines that were promising well. The climate that perfects grapes is necessarily hot. The Department of Agriculture has not much on the grapes we cultivate, the European varieties or Vinifera, the bulletins dealing with the Eastern or vitis forms. These are now used to form rootings for the better class of grape scions to be grafted upon. The Imperial valley is as yet free from Phylloxera, and the Vinifera varieties are still planted on their own roots.

The following are on this line: Grape, Raisin and Wine Production, Year book, 1902. Muscat Vines, U. S. Department of Agriculture, Washington. Horticultural Report State of California, 1905-06. Twenty-ninth Fruit Growers' Convention, 1903; State Commissioner of Horticulture, Sacramento. Selection and Preparation of Cuttings, Bioletti, California Experiment Station, Berkeley, Cal.—M. E. S.

IMPROVED FORM OF BLACKLEG VACCINE.

In California, the use of the bothersome powder form of Blackleg Vaccine has been largely supplanted by the more easily used, safer pill form. The advantage of the Blackleg Pills over the powder form of vaccine are that the time and bother of mixing are saved; that the dose is absolutely uniform; that a package may be opened and only a part used, the rest being saved for future use; that the operation of using it is far safer and simpler than that of using the powder form; that the slower absorption of the pills tends to the production of a higher degree of immunity.

They are small and of uniform size. Each pill is a dose for an animal of any age, as on account of the slower absorption, there is no necessity for cutting down the dose for very young animals as is the case with the more quickly absorbed powder vaccine; and, as before stated, the slower absorption of the pills tends to produce a higher degree of immunity.

The injector is a very simple instrument that is practically indestructible, and on account of its simplicity is little likely to get out of order. The operation of vaccinating consists simply of putting a pill in the hollow needle of the injector and after the needle has been pushed into and under the skin (between the skin and muscle) the pill is ejected by means of a plunger which is operated by a thumb-piece on the side. Those who have used the complicated powder form and syringe method can readily appreciate how much simpler the pill and injector method is.

We are assured by the reports of users that the products of The Cutter Laboratory, Berkeley, California, are of the highest standard, and they are certainly fairly priced. This laboratory produces biological products only (vaccines and serums) and makes a specialty of the investigation of infectious diseases of men and animals. Their booklet on Blackleg and Anthrax contains more comprehensive and up-to-date information concerning these two diseases, and others that might be mistaken for them, than anything else we have seen, and every stockman should have one. It may be obtained free by application to the laboratory. Those stockmen who are not familiar with the pill form of vaccine should certainly investigate the matter. If they do they will abandon the use of the uncertain and vexatious powder form.

Veterinary

Dr. R. T. Whittlesey, veterinarian, of 714 East Seventh street, Los Angeles, will answer questions in this department. In writing of sickness or injury to any animal be explicit in giving symptoms and particulars. Always enclose full name and address, but if assumed name or initials are preferred they will be used.

If an immediate mail reply is wished enclose $1.00 for such service, but for replies in paper only, no charge is made if the answer will be of general interest.

Retained Afterbirth.

I have owned from 20 to 40 dairy cows for a great many years and have almost invariably had best of results from them and only lost two very recently. Both of these cows had retained afterbirth and both laid down and died suddenly within two days in one case and four days in the other from the time of dropping calf. Was this caused by the afterbirth, and if so, how should it have been treated? How may it be removed when it does not come away of its own accord?—S. J. Lowe, Palms.

I should suspect parturient paralysis (milk fever so misnamed). Any man who has seen a few cases of it should certainly be able to recognize it. It is not advisable to remove the placenta inside of 24 hours after calving and not to wait longer than two days, or the neck of the uterus may close too small for the hand to pass through. No one should attempt this operation who does not know how, as serious results will be almost certain to follow, and it cannot be described in an article like this.

The retained placenta usualy occure in cows that have calved a few days early, and the length of time to wait depends very much on that as well as the general condition of the cow.

Mange.

Our cow's hide is covered in places with a sort of scurvy or little scaly lumps or sores which seem to itch badly. What is the remedy?—W. W. K., San Gabriel.

Make a thick soap and water emulsion, either with soft soap or common laundry soap, to this add kerosene in the proportions of one to ten; and carbolic acid in the proportion of one to 100. Scrub the affected parts every other day, letting it dry in.

We are in receipt of a valuable and timely illustrated phamphlet entitled "On the Pacific With Our Navy." It has a series of illustrations with many views of the various battleships. It is published "The White House," San Francisco.

The Thornless Cactus Farming Company, of Los Angeles, has issued a booklet regarding Burbank's thornless cactus or opuntia, in which the advantages to be derived from this product are described.

Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

EGGS FOR HATCHING.

ORPINGTONS, BUFF AND BLACK, THE winners of the lion's share of honors at the Los Angeles County and Breeders' shows this year. The birds that win in the keenest competition and lay eggs all the year. Birds that pay as they go. Handsome catalogue free. Guaranteed fertile eggs in any quantity. Proven breeding stock very reasonable. Write today. Orpington Reservation. ROSS & TATE, Altadena, Cal.

EGGS FROM MY PRIZE WINNING BARred Rocks; won all firsts, all seconds but one, and all specials on Barred Rocks at L. A. C. P. A. Show, 1907. Eggs from best pens, $3 per 15; $12.50 per 100. Stock for sale. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

FOR SALE—BANTAM EGGS FROM RARE and beautiful birds. White Crested Polish $5.00 per setting. Blacktail Japanese, $2.00 per setting. No stock for sale. Telephone M. 4037. RALPH D. PECK, 367 S. Boylston, Los Angeles, Cal.

FOR SALE—LINE BRED WHITE ROCK cockerels from Mrs. Basley's original strain. Write for prices. Also eggs for sitting $2.50 per 15. MRS. KATE B. JOHNS, Compton, Cal.

DOGS.

SABLE AND WHITE COLLIE PUPPIES—Sires, Brandane Wishaw Squire and Glen Fana Bounder, litter brother to Aufield Model. Dams, Ormskirk Gloriana and Presidio Nellie. $10 to $25; 2 to 8 months. GLENALPINE KENNELS, Grandville, Cal.

MELON SEED.

PLANT THE SANTA CLAUS MELON—Write to us for our circular of instructions. This is the best late melon ever introduced. It is at its best from Dec. 1st to Feb. 1st. 1 oz., 25c; 1 lb. $3.00. JOHNSON & MUSSER SEED CO., 113 N. Main St., Los Angeles, Cal.

FARM FOR RENT.

FOR LEASE—ONE OF THE BEST equipped poultry ranches in the State for two years or more. Leasee to buy stock, about 1700 head, at from $9 down, also about 1100 this February and March hatch pullets. Ranch in first class condition. Practically new 6-room house fully plumbed. Within three-fourths of a mile of Court House; free delivery of groceries and feed. Reason for leasing poor health. A rare opportunity. Investigate. Inquire this office or on ranch. F. L. JONES, Hollister, Cal.

FARM LANDS FOR SALE.

FOR SALE—1 TO 10-ACRE TRACTS ON CAR line, between Riverside and new cement works; good for chicken ranches, alfalfa or gardening; will sell on easy terms; plenty of water on each tract. C. C. POND & N. R. BELL, Riverside, Cal.

FOR SALE—TWENTY AND FORTY acres, level, good land. Fine for chickens, berries, etc. $30 per acre. Very easy terms. No irrigation required. WM. MANTZ, Santa Maria, Cal.

RANCHES WANTED.

WANTED—TO BUY OR RENT, THREE TO five acre poultry ranch, value about $50 per acre, near a good market. Write full particulars. BOX P, CARE CULTIVATOR.

TREES.

FOR SALE—1,500 EUREKA LEMON TREES and 1,000 Washington navel orange trees, true to name. Also street and ornamental trees. Clean, healthy stock only offered. GEO. B. WARNER, SANTA ANA, CAL.

MACHINERY.

COMPLETE PUMPING PLANTS BOUGHT, sold and exchanged. All kinds of electric, steam and gasoline machinery both new and secondhand. See us before buying as we can positively save you money. BAILIE & BRANDT CO., 943 N. MAIN ST., LOS ANGELES, CAL.

FOR SALE—AT A SNAP 13 H. P. DIStillate angine, standard make in good running order. Address BOX B CARE CULTIVATOR, LOS ANGELES, CAL.

FOR SALE—25 H. P. FAIRBANKS MORSE gasoline engine the equal of new at an exceptionally low price. 117 BRUNO ST., LOS ANGELES, CAL.

FOR SALE AT A BARGAIN—2nd. HAND 10 H. P. Lambert Gas Engine almost new with guarantee. Can be seen at Capito Carriage Co. Repository and factory, 12th and MAIN ST., LOS ANGELES, CAL.

POULTRY

BARRED PLYMOUTH ROCKS, OCEAN Blue strain; for show points and as layers, unsurpassed; if you don't believer it, try a setting or two of eggs or, better still, an incubator lot, and prove it, as many others have done; eggs, $2 to $5 per 15; incubator lots, $8 100. MRS. AND MR. D. T. WIELAND, Moneta, Cal. Take Moneta ave. car for Redondo, get off at Illinois st., Moneta, right on ranch.

FOR SALE AT A BARGAIN—THIRTY yearling W. Leghorn hens and 30 yearling White Rock hens. The best of stock perfectly healthy and laying. Address J. W. WHITNEY, R. F. D. NO. 2, BOX 162, LONG BEACH, CAL.

FOR SALE—STOCK AND EGGS OF THE following standard bred poultry: Black Orpingtons, the great winter layers, Brown and White Leghorns. J. J. VERKOUTEREN, route 3, Hanford, Cal.

KILLAMITE KILLS THEM—BEST INSECT powder made for fowls or plants. 50c for 2½ lb. sifting can, express prepaid by us if your dealer hasn't it. WEST COAST MILL, 818 San Fernando St., Los Angeles, Cal.

SILVER LACED WYANDOTTES—BEST stock on the coast. 9 ribbons on 10 entries at late Chutes Park show. Eggs, $1.50 per 15. FAIRVIEW POULTRY YARDS, A. E. NELSON, El Monte, Cal.

PARTRIDGE WYANDOTTES—C. ANdrews, 823 W. Franklin Ave., Hollywood, Cal.—1st cock, hen, cockerel and pullet; 2 cups, Poultry Breeders' Show, 1908.

MISCELLANEOUS.

FOR IMPERIAL VALLEY NEWS SUBscribe to the Brawley News, BRAWLEY, Cal., $1 a year, sample copies free.

ELLIOTTS OINTMENT CURES LUMP jaw in cattle—never fails—$1.00 per box. D. R. ELLIOTT, Riverside, Cal.

FOR SALE—FIVE HUNDRED FRUIT trays, 2 X 3, good order, or will exchange for four inch water pipe. JOSEPH THORNDIKE, PASADENA, CAL.

WANTED—MALE HELP.

MEN TO LEARN A TRADE IN FEW months by actual work in shops and on buildings—no toys or books. Plumbing, electricity bricklaying, etc. Organization of contractors employ graduates. Free picture catalogue. UNION SCHOOL OF TRADES 120 to 126 E. 9, Los Angeles, Cal.

SITUATION WANTED.

WANTED TO RUN THRESHER THIS season. State wages, number of days run. BOX 125, Beaumont, Cal.

The Oldest Savings Bank in California
FOUNDED IN 1857
The Savings and Loan Society
101 Montgomery St., Cor. Sutter St., San Francisco
CAPITAL FULLY PAID $1,000,000.00
Exclusively a Savings Bank whose policy is for ***Conservatism*** and ***Safety,*** the result of ***50 years experience.***
Deposits may be made and withdrawn by mail.

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Founded June 18, 1862 · Northwest Cor. California and Montgomery Sts., San Francisco
Conducts a Savings Bank Business Exclusively
Capital Paid Up, $1,000,000.00. Surplus, $1,168,281.00.
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Every facility afforded for opening accounts and making deposits and withdrawals by mail. Correspondence invited.

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Summer Furnishings
For Beach, Mountain, Country or City Home, Porch or Lawn

Old Hickory Furniture
For out of door use nothing is quite so good as old hickory. It stands the weather—is durable and cheap, very popular—will be found in the best homes. We are well supplied to meet your needs.

Craftsman Furniture
We are sole agents here for Gustav Stickley celebrated Craftsman furniture. No line gives more universal satisfaction. It is certainly suitable for summer homes, bungalows and mission houses. In fact, its use is very general.
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Western Gas Generators
The most reliable and cheapest GASOLINE GAS GENERATOR ever put on the market.
For Lighting, Cooking and Heating. This Generator is used by the largest hatcheries in California for Incubating and Brooding.
AUTOMATIC, SAFE, ECONOMICAL.
Read what Mr. A. W. Foster, President of the California Northwestern Railway, has to say about them:
Gentlemen: Replying to yours of the 20th inst., I would state that the plant installed for me by the Western Gas and Power Company on my Hopland Stock Farm, is giving entire satisfaction, and I cannot speak too highly of it. Yours truly,
A. W. FOSTER.
Mr. Foster used an acetylene gas generator before we installed our Western. Send for our latest Booklet.
Good reliable Agents wanted.
Western Gas & Power Co.
1842-48 Seventh St., Oakland, Cal.

$16.30 buys this handsome six-hole Nickle-Trimmed Cast Range direct from the Manufacturer
without high shelf. With high shelf, just as shown in the cut, $19.97; large oven, six cooking holes, best quality of iron. Burns coal or wood. Handsome nickel trimmings. OUR TERMS are the most liberal ever made. You can pay after you receive the range. You can take it into your own home and use it 30 days. If you don't find it exactly as represented, the biggest bargain you ever saw, you won't have to keep it.
Write today for our beautifully illustrated Stove Catalogue No. 101-C. A postal card will do it. Don't buy until you get it.
P. F. Ross & Co.
443 Pine St. San Francisco, Cal.

Household Departmen

MEMORIAL DAY.

Done are the toils and the wearisome marches,
Done is the summons of bugle and drum.
Softly and sweetly the sky overarches,
Shelt'ring a land where Rebellion is dumb.
Dark were the days of the country's derangement,
Sad were the hours when the conflict was on,
But through the gloom of fraternal estrangement
God send His light, and we welcome the dawn.
O'er the expanse of our mighty dominions,
Sweeping away to the uttermost parts,
Peace, the wide-flying, on untiring pinions,
Bringeth her message of joy to our hearts.

Out of the blood of a conflict fraternal
Out of the dust and the dimness of death,
Burst into blossoms of glory eternal
Flowers that sweeten the world with their breath.
Flowers of charity, peace and devotion
Bloom in the hearts that are empty of strife;
Love that is boundless and broad as the ocean
Leaps into beauty and fullness of life.
So, with the singing of paeans and chorals,
And with the flag flashing high in the sun,
Place on the graves of our heoes the laurels
Which their unfaltering valor has won

—Paul Dunbar

THE FATHER OF MEMORIAL DAY.

THE first official observance of May 30 as a day for the decoration of the graves of the Union dead followed a proclamation issued from the headquarters of the Grand Army of the Republic on May 5, 1868, by General John A. Logan, commander in chief. This order read:

"The 30th of May, 1868, is designated for the purpose of strewing with flowers or otherwise decorating the graves of comrades who died in defense of their country during the late rebellion and whose bodies now lie in almost every city, village, hamlet and churchyard in the land. In this observation no form of ceremony is prescribed, but posts and comrades will in their own way arrange such fitting services and testimonials of respect as cirsumstances may permit.

"We are organized, comrades, as our regulations tell us, for the purpose, among other things, of preserving and strengthening those kind and fratenal feelings which have bound together soldiers, sailors and marines who united together to surpress the late rebellion."

"What can aid more to assure this result than by cherishing tenderly the memory of our heroic dead, who made their breasts a barricade between our country and its foes? Their soldier lives were the reveille of freedom to a race in chains and their deaths the tattoo of rebellious tryanny in arms. We should guard their graves with sacred vigilance. All that the consecrated wealth and taste of the nation can add to their adornment and security is but a fitting tribute to the memory of her slain defenders. Let no wanton foot tread rudely in such hallowed grounds. Let pleasant paths invite the coming and going of reverent visitors and fond mourners.

"Let no vandalism of avarice or neglect, no ravages of time, testify to the present or to the coming generatic that we have forgotten as a pe the cost of a free and undivided public.

"If other eyes grow dull and otl hands slack and other hearts gr cold in the solemn trust, ours sh keep it well as long as the light a warmth of life remain to us.

"Let us, then, at the time appoin gather around the sacred remains a garland the passionless mounds ab them with the choicest flowers springtime. Let us raise above th the dear old flag they saved fr dishonor. Let us in this solemn ence renew our pledges to aid and sist those whom they have left amo us, a sacred charge upon a natio gratitude, the soldier's and sa widow and orphan.

"It is the purpose of the comm in-chief to inaugurate this obs with the hope that it will be k from year to year while a s the war remains to honor the of his departed comrades.—J Logan."

RECIPES.

Tomato Puree.

One quart tomato. one p water in which is dissolved te ful beef extract, one bay leaf parsley, stick of celery, six corns and one teaspoonful sug mer until tomato is thorough

Fry a sliced onion in on spoon butter, add one tablespoo and cook but not brown. To t add enough of the tomato t then mix well with rest of to season with salt. Pass throu strainer and heat again before

Fish Salad.

Remove the skin and bon one can of salmon, or an equ tity of any cold fish; chop a with it three large boiled pota the chopped whites of three Make a salad dressing of the three hard boiled eggs rubbed to which has been added pe and half a teaspoonful of musta tablespoonfuls of cream and of vinegar. Pour the dressin the fish just before serving.

French Tapioca.

Into one pint of milk scald double boiler, stir one-third cu quick-cooking tapioca, a dash and one-quarter cupful of sugar. about ten minutes (stirring f ly,) then gradually add thre beaten very light, one teaspoo butter, and a grating of lemon Turn into a mold which has be tered, and then dusted with su in a pan of boiling water and Serve cold with fruit sauce.

Salmon Cakes.

To one can of salmon add o and enough crushed crackers to en to form in balls. Fry in hot

Cream Sponge Cake.

Two eggs; one cup sweet one cup sugar; salt; three t baking powder; one and on flour; one teaspoon vanilla. three layers and use a cr tard filling.

Potato Soup.

Three small potatoes, raw, thin; one onion sliced thin; co one pint boiling water till tender quart sweet milk, one table minced parsley, one tablespoon butter, pepper and salt. When is ready to boil, serve.

ORTH
TELEPHONES specially adapted to farm lines. Sold direct from factory. Book of instructions how to organize farmers and build line free. Write for Bulletin No. 308. The North Electric Co., Cleveland, O. Kansas City, Mo. Dallas, Tex.
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hat MORE Could You Desire In A Savings Bank?
20,000 Depositors
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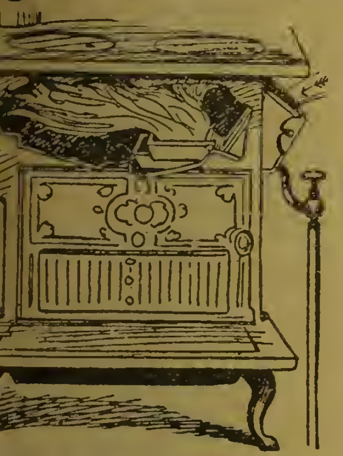
RING & FOURTH STS.
Heart of the Business Center
Model Banking Facilities



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rance Building, Los Angeles, California

Fig Sauce.

Cut one pound of figs into small pieces; seed half a pound of raisins; add half a cup of sugar, a small glass of currant jelly, and a large cup of water. Stew together until soft and serve as any fruit sauce.

HOMELY HINTS.

Hair brushes are cleaned by dipping their bristles only in water in which ammonia—a teaspoonful to a quart of water—has been added. Work the brushes up and down in the water, but do not allow tnem to get their backs wet.

To remove spots from black woolen goods, apply cold coffee to which has been added a teaspoonful of ammonia to a pint of coffee.

Grease spots may be removed from wall paper by placing over them a piece of blotting paper and then applying a hot iron to the paper.

If new tinware be rubbed over with fresh lard and thoroughly heated in the oven before being used it will never rust afterward, no matter how much it is used in water. For stained tinware borax produces the best result. If a teapot or coffee pot is discolored on the inside boil it in a strong solution of borax for a short time and all its original brightness will return.

Cornstarch will remove grease most effectually. Rub a little fresh, dry cornstarch into the soiled place and it will begin at once the process of absorbing the grease. Brush the first used off carefully from the garment, and proceed in the same way with more until the disfigurement has entirely disappeared.

Bread Scraps.

Don't waste the scraps of bread, but cut them up in small squares. Put in pan in a hot oven and brown nicely. They are splendid for soup or in hot milk for children or for tomatoes. Have a bag to keep the toasted squares hung in the pantry.

Very few people appreciate the cleansing power of pure wheat flour. Delicate woolen things can be easily and quickly cleaned if you give them a flour bath. Take a few handfuls of flour, put it in a basin and cover the article that is to be cleaned. Gently rub the wool in the flour for some minutes. Then shake it well out of an open window. A second rinsing in the flour is generally necessary.

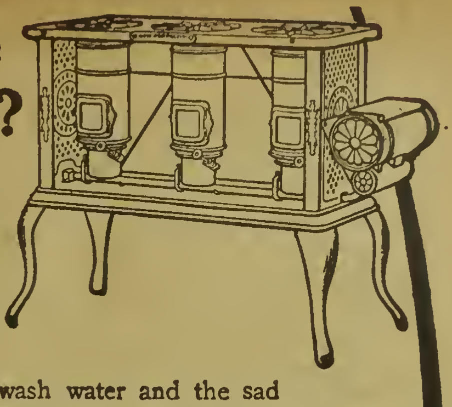
For all bruises, except those on the head, heat is the remedy, but for severe blows on the head cold is doubtless better. Fomentations may be used at intervals to lessen the soreness, but should not be continued more than five minutes at a time.

Sprains.

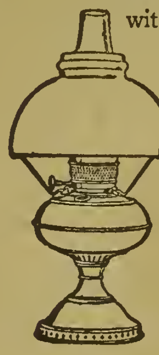
Here again we find heat the best remedy. A hot foot bath will usually relieve the pain and soreness, though there are cases where cold is more efficacious. After the treatment a bandage should be applied and the part given absolute rest. Massage is found to be a successful method of treating sprains. It should be very light at first and increased in vigor from day to day. If the ankle is sprained, the foot should be kept elevated until pain and swelling ceases. If the wrist, the arm can be held in an upright position across the chest by a sling.

FOUR TIMES AS MANY.

Am enclosing money-order to balance account. I put ad in two of Los Angeles' best papers and got four times as many answers from Cultivator.—D. F. Conant, Modesto.



What Stove for Summer?
Nothing adds to kitchen convenience in summer weather like a New Perfection Wick Blue Flame Oil Cook-Stove. Anything that any stove can do the "New Perfection" will do, and *do it better.* Bakes, roasts, boils, toasts; heats the wash water and the sad irons, and does it without dissipating its heat through the room to *your* discomfort. The
NEW PERFECTION
Wick Blue Flame Oil Cook-Stove
actually keeps the kitchen cool—actually makes it comfortable for you while doing the family cooking, because, unlike the coal range, its heat is directed to one point *only*—right under the kettle. Made in three sizes, fully warranted. If not with your dealer, write our nearest agency.



The Rayo LAMP affords a mellow light that is very grateful to tired eyes—a perfect student or family lamp. Brass, nickel plated, hence more durable than other lamps.
If not with your dealer, write our nearest agency.
STANDARD OIL COMPANY
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America's Most Famous Summer Resort
Never Hot Never Cold Always Delightful
Coronado Tent City
Open Now
Reduced Rates Until June 10th
Coronado Tent City is literally a city of tents and Palm tent houses, large and small, furnished or unfurnished, with kitchen tent in rear if desired, accommodating one to eight people. Tents grouped about a common court for social or fraternal societies.
300 New Palm Tent Houses
Nothing like them anywhere. Delightful to live in. Free electric lights. Free ice water. Pure mountain water piped direct to your tent. Perfect sanitary conditions.
New 700 Ft. Pleasure Pier. Fine Fishing.
The famous Coronado Band. Better than ever. The old favorites and some new ones. Fine large bathing pool for children. First Class Cafe, Lunch Counter and Delicatessen. Fresh fruits, vegetables and milk. Prices very reasonable.
Literature sent free tells all about the place—how to get there—what it costs. Helpful suggestions. Write at once. Address
Joshua S. Hammond Manager Coronado Tent City
Coronado Beach, California
or H. F. NORCROSS, Agt., 334 S. Spring St., Los Angeles, Cal.

Largest National Bank West of Denver and South of San Francisco
First National Bank
of Los Angeles, California
UNITED STATES DEPOSITORY FOR GOVERNMENT FUNDS
TOTAL RESOURCES, $16,000,000
ADDITIONAL ASSETS—One Million Five Hundred Thousand Dollars invested in the stock of the Los Angeles Trust Company and the Metropolitan Bank and Trust Co., and held by the officers of the First National Bank, as Trustees, in the interest of the shareholders of the Bank.
We are prepared to extend to the small depositor the same personal and careful attention that we do our largest accounts.

The Produce Markets

Los Angeles Markets

LOS ANGELES, May 27, 1908.

Butter receipts are very heavy and much of it is going into storage. On Tuesday 40,000 pounds were stored. The quotation remains as last week influenced partly, at least, by prices in the northern part of the State. Some sales are yet made at 2½ cents above quotations.

Creamery ex per roll	47½
Firsts	.45
Dairy	.22
Cooking	.17½
"Butterine"	.15@20

Cheese.

Southern California	.15½
Northern fresh	.15
Eastern singles	.13@16
Longhorn	.18½
Cheddars	.17
Imported Swiss	.27
Swiss	.19
Oregon	.18
Limburger	.18½

Eggs and Poultry.

The receipt of eggs is enormous and the tone of market is somewhat easier, though quotations hold nearly as last week.

Eggs local candled	.22
Eggs case count	.19½
Firsts fresh	.21½
Eastern fresh	.19½@20
Hens per lb	.10
Young roosters per lb	.17
Fryers	.22
Broilers per lb	.23
Roasters	.17
Old roosters	.8
Turkeys	.16
Geese	.13
Ducks	.12
Squabs	1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds	6¼
Prime steers	4½
Heifers	.4
Calves per lb	4½@5
Sheep ewes per head	4.25
Lambs per head	3.25
Wethers	4.75

Potatoes.

Highlands	1.25
Early Rose	1.70@2.25
Burbanks	1.40@1.50
Salinas	1.25@1.50
Sweet potatoes per sack	3.75@4.00
Sweet, white	1.50@1.60
Oregons	1.55
White Rose	1.35
Watsonvilles	1.35
New potatoes by lb	1½
Lompoc	1.75@2.00

Onions.

Bermuda onions have declined materially during the week.

Bermudas per 100	1.90
Bermuda per crate	1.15
Silverskins new	1.25@1.50
Crystal wax per crate	1.50
Garlic	11½@12

Vegetables.

Artichoke per box	.50
do Jerusalem box	.75
Asparagus per lb	8@10
Asparagus green	7½@8½
Beets per doz	.25
Bell peppers per lb	25@30
Beans limas per lb	10@12
Beans green	1½@2
Brussels sprouts per lb	12@18
Cabbage sack	40@50
Cabbage red per lb	.2
Celery per doz	60@75
Celery Golden Heart	.60
Corn per doz	.30
Chili peppers per lb	.25
Cucumbers per doz	85@1.25
Cauliflower	75@1.00
Carrots per doz	25@30
Egg plant lb	.10
Green onions doz bunches	20@30
Horseradish	12½
Hubbard squash per lb	1@1½
Lettuce per crate	1.00@1.50
Mushrooms per basket	1.75
Mint per box	.40
Okra	.25
Peas sugar per lb	3½@4
Parsley	.30
Parsnips	35@40
Rhubarb per box	40@50
Radishes per doz	15@20
New summer squash per box	.85
Summer squash	40@50
Salsify	15@20
Spinach per doz	15@17½
Turnips doz bunches	.40
Tomatoes per box	1.75@2.00

Citrus Fruits.

Navels fy	2.50@2.75
Navels ch	1.25@2.00
Tangerines	2.00
Culls	40@80
Grapefruit seedless	2.75@3.00
Grapefruit seedlings	1.50@1.75
Lemons fancy	1.25@2.50
Lemons choice	75@1.00
Limes 15-lb. box	.85

Fresh Fruits.

Apricots per crate	1.75@2.00
Bellefleurs	2.00@2.25
Baldwins	1.50@1.75
Greenings	2.25@2.75
Pippins 4-tier	1.50@1.75
W W Pearmains	2.00@2.30
Colorado Jonathans	3.00
Cal Ben Davis	1.75@2.00
Cherries	.75
Cherries black per lb	6@7
Cherries white per box	60@75
Royal Annes	1.25
Dewberries	4@5
Loquats per lb	4@7
Plums per box	1.25
Raspberries	.6
Strawberries	2@3
Extra fancy	.10
Blackberries	.5
Loganberries	7@8
Gooseberries	12½

Dried Fruits.

Apricots	10@11½
Evap. apples fy per lb	7@8
Figs loose	.7
Peaches	9@11
Pears	.16
Nectarines	.15
Prunes	4@4½

Beans Dried.

Limas per ctl	4.75@5.00
Pink No 1	3.60@3.70
Lady Washington	4.50
Small White	4.35@4.50
Black Eyes	4.50@5.00
Garvanzas	5.50
Lentils	9@10
Bayou	4.00

Nuts.

Almonds per lb	15@17½
Pecans polished	16@17
Peanuts Virgina	.8
Peanuts California	.8½
Walnuts No 1 SS	15@16
Walnuts No 1 H S	14@15

Honey.

Extracted Water White	7¼@7½
Comb W W	.16

Hay.

Price paid to producers f. o. b. Los Angeles are as follows:

Barley No 1	15.50@16.00
Barley No 2	11.00@15.00
Alfalfa northern per ton	12.00@13.00
Alfalfa local	12.50@14.00
Plain oat No 1	15.00@17.00
Wheat No. 1	15.00@16.00
Wheat No. 2	11.00@12.00

Grain.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl	1.90
Wheat in 100-lb sacks	1.95
Kaffir corn	1.80
Barley	1.55
Corn Eastern sacked	1.90
White oats	1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn	1.95
Shorts	1.80
Bran	1.65
Oil cake meal	2.50
Feed meal	2.00
Rolled barley	1.70

San Francisco Markets

SAN FRANCISCO, May 26, 1908.

Butter.

Butter extras have advanced one cent during the week, but other grades have remained stationary. Sales are liberal at that quotation and market very firm.

California extras per lb	.24
California firsts	.23
California seconds	.22
Fresh packing stock	.21
Fresh packing stock No. 2	.19

Cheese.

California young American fy	.14
Firsts	.13
California flats fy	.12
Firsts	.11
Eastern fy	.14
Oregon fancy	.14

Eggs and Poultry.

Eggs advanced a half a cent early last week and this has been held through the week so that present quotations are a half a cent above last week's. Market is firm on better grades.

Fresh ranch eggs	22½
Eggs firsts per doz	20½
Eggs second per doz	17½
Eggs thirds	16½
Eastern seconds	.16
Hens per doz	5.00@6.50
Hens extra	6.50@7.50
Young roosters	7.50@8.50
Old roosters	3.50@4.50
Fryers per doz	7.00@8.00
Broilers per doz	3.00@4.00
Geese per pair	2.00@2.50
Ducks young	4.00@5.00
Turkeys per lb	14@16
Pigeons	1.35@1.50

Live Stock.

Steers No 1	.8
Do second quality	7½
No 1 cows and heifers	6½@7
Hogs 80 to 200 lbs	.6
Hogs 200 to 300 lbs	5½
Calves per lb	3½@4½
Lambs	5½
Wethers No 1	4½
Ewes No 1	.4

Potatoes.

Oregons are manifesting activity and are slightly advanced in quotations over last week. The general market is firm.

River Whites	40@85
Oregon Burbanks	1.20@1.35
Salinas Burbanks	75@1.15
Sweets per crate	2.50@3.00
New potatoes per ctl	1.00@1.25

Vegetables.

Receipts of vegetables is very liberal and heavy stocks are still held over. Prices given below are often shady materially.

Asparagus per lb	7@8
Celery per doz	35@50
Cucumbers per doz	40@65
Chili peppers per lb	17½@2
Egg plant per lb	12½
Green peas per sack	1.25@1.7
Squash per box	65@1.0
Marrowfat squash per sack	60@7
Hubbard squash per sack	60@8
Onions green per box	6
Rhubarb per box	60@7
Tomatoes local	1.25@1.7
String beans	3½@
Wax beans	4
Garlic new	6@

Onions.

Oregon yellow	3.50@4.0
Eastern red	.90@1.1
Bermudas per crate	1.00@1.2
Australian Brown	3.50@4.0
Red	1.00@1.2
Silverskins	1.15@1.2

Citrus Fruits.

Navels fy	2.75@3.0
Navels ch	1.90@2.1
Grapefruit seedless	3.25@3.
Grapefruit seedlings	1.75@2.2
Tangerines	1.50@2.
Lemons	2.75@3
Limes	5.50@6.

Fresh Fruits.

Newtons	1.65@2.0
Spitzenberg	1.75@2.
Pomegranates per box	1.00@2.5
Strawberries per ½ crate	.1
Longworths per chest	8.00@1
Cherries white per drawer	[illegible]
Cherries black	6
Cherries Bulk	.2
Currants	[illegible]
Gooseberries	.75
Aligator pears per doz	7.00@

Dried Fruits.

Apples (evap.)	[illegible]
Apricots per lb	5
Figs white	2¼
Nectarines	10
Plums pitted	12
Peaches	6
Pears	5½@
Prunes 4-size bag basis	2¾@

Beans Dried.

Limas	4.80@4
Pink	3.2
Small white	4
Large white	4.10@4
Lady Washington	3.45@3
Black eyes	[illegible]
Red Kidneys	3.2
Garvanzas	4.00
Bayo	3.00
Horse beans	2.25@2

Hops.

Hops per lb	3
Hops old fancy	1

Honey.

Clear white comb	16
Amber	1
Extracted	7¼@
Beeswax No. 1 per lb	26
Beeswax No. 2 per lb	2

Hay.

Receipts of hay for the past have amounted to 3410 tons, co able more than we have receiv several weeks past. With these l arrivals we have noted a still f falling off in the demand, which, course, has made a rather mark weakness in prices. No doubt t weakness is accentuated by the that as harvest time draws near ter crops seem probable owing continued favoralbe weather. have reports from several of the er hay districts that they wi two or three times as much hay as they anticipated a month ago

There is little or no activity falfa hay, as practically all the men are feeding grass and are ing until new alfalfa becomes able before making any purch

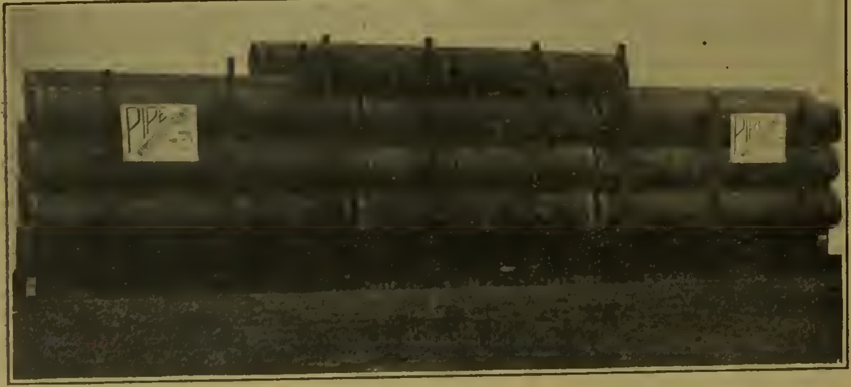
Choice wheat hay	16.00
Good wheat hay	13.50
Other grades same	11
Wheat and oat	12.5
Tame oat	1
Wild oat	10.00
Stock hay	8.00 to 1
Alfalfa	9
Straw, per bale	[illegible]

Grain.

Wheat No 1	1
Barley No 1	1
Corn large yellow	1
Oats white	1
Oats red	1.5

Feed Stuff.

Bran per ton	32
Feed cornmeal per ton	36.0
Cracked corn per ton	38.00
Rolled barley per ton	31.0
Oil cake meal per ton	38.00
Cocoanut cakes per ton	[illegible]
Middlings	34.00



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Citrus Market

LOS ANGELES, May 27, 1908.
Oranges are accepted at advanced rices, though sales are slightly lesened by the high prices and large izes which puts many of smaller ealers out of the business, because of ne price per doz. necessary to charge. he tone of the market is excellent, specially in the Middle West.

Lemons are improving under the armer weather and the demand is risk.

NEW YORK, May 25.—Fifteen carads of navels, four seedlings, three t. Michaels, three lemons, one Jaffa nd one Mediterranean Sweets sold. he demand is fairly active. Lower 1 sizes 80s to 150s. Berries in heavy ceipt. Weather hot and sultry.

NAVELS—	Avg.
rchard Nat O Co	$4.00
ower Grs Ft Co Upland	3.55
uail O K Ft Ex	3.60
errito L V W Brown	4.15
vastika L V W Brown	3.85
ansy Colton O G Assn	3.25
veetheart High Ft Ex	3.75
Mesa Riv Ft Ex	3.60
olden Riv Ft Ex	3.10
SEEDLINGS—	
ative Sutherland Ft Co	2.80
ission Bells A B Chapman	3.40
Toreador San Marino Grs	3.05
ue Globe Riv Ft Ex	3.55
ST. MICHAELS—	
emium Benchley Ft Co	3.40
elt R H Ft Ex	3.30
ctoria A H Ft Ex	3.25
MED SWEETS—	
s D M Ft Ex	3.55
chinvar R H Ft Ex	3.30
LEMONS—	
dependent Grs Ft Co	3.25
oice	2.40
ssmoyne E M Ross	2.00
uirrel A H Ft Ex	1.95
TANGERINES—	
hard Nat Or Co	2.60
ower Grs Co Upland	1.80
T. MICHAELS—	
s	1.80
olet	1.65
smine	1.60
toria	1.55

T. LOUIS, May 25.—Weather hot d muggy. Market is declining on vels, but is firm on good stock ions. Nine carloads sold, seven on ck.

AVELS—	
den Riv Ft Ex	2.80
ombo S T Ft Ex Fuller	2.85
nkee Doodle High Ft Ex	3.05
rmencita S T Ft Ex Fuller	3.10
gle High Ft Ex	3.35
rot S A Ft Ex Pom	3.45
ALENCIAS—	
unia Altland Ft Co	3.80
ender Altland Ft Co	3.45
EMONS—	
ellent Santa Paula Ft Assn.	2.35
sion S T Ft Ex S Paula	2.35
ial Veil P & McKevitt	2.75
set Santa Paula Ft Assn	2.00
tival S T Ft Ex S Paula	1.80
ite Cross P & McKev	2.50

NCINNATI, May 25.—Weather m. Market declining. Six cars sold; two on track.

AVELS—	
k S A Ft Ex Claremont	2.70
or S A Ft Ex Claremont	2.70
k S A Ft Ex Pom	2.60
yhound S A Ft Ex Clare	3.05
rot S A Ft Ex Pom	3.10
Crest S A Ft Ex Pom	3.10
BY BLOODS—	
k S A Ft Ex Claremont	3.10
EMONS—	
S A Ft Ex San Dimas	2.90

Greyhound	2.45
Duck	2.20
Bridal Veil P & McKev	2.40

BOSTON, May 25.—Eight carloads sold; twenty-seven on track. Weather favorable; market is dull.

NAVELS—	
Quail O K Ft Ex	3.00
Justrite Q C Ft Ex Corona	3.00
Succes F H Speich & Co	3.25
Jameson Q C Ft Ex Cor	3.50
Criterion Penn Ft Co	3.25
Clover Red O G Assn	3.10
MED. SWEETS—	
Chess Queen Ely Gilmore	3.10
Vista Bonita J A Graham	2.30
SEEDLINGS—	
Clover Red O G Assn	2.75
LEMONS—	
Pet S A Ft Ex San Dim	2.65
Greyhound	1.85
Duck	1.45

PITTSBURG, May 25.—Eleven carloads sold; thirteen on track. Market is very steady; weather favorable.

NAVELS—	
Navajo A H Ft Ex Casa B	3.10
Quail O K Ft Ex	3.30
Troubador A H Ft Ex Casa B.	2.20
Blue Jay O K Ft Ex	2.85
Pansy Colton O G Assn	3.50
MED. SWEETS—	
Searchlight S S Ft Ex Orange.	2.90
Sunset	2.75
SEEDLINGS—	
Triumph C C U	2.70
ST. MICHAELS—	
Truth Riv Ft Ex	3.55
La Paloma	2.40
LEMONS—	
Housewife Riv Ft Ex	2.15
Big Find	1.50

PHILADELPHIA, May 25.—Four carloads of navels, two seedlings, two Sweets, one St. Micael, five mixed and three carloads lemons sold. The market is easier. Weather favorable. Eighteen carloads on track.

NAVELS—	
Hunter A C G Ft Ex Azusa	2.61
Stork S A Ft Ex	3.07
Partridge C C U	2.68
Royal Knight R H Ft Ex Red.	3.13
SEEDLINGS—	
Rialto Girl Gr Ft Co	2.75
Wildflower C C U	2.20
Rancho S B Ft Ex Colt	2.19
SWEETS—	
Independent Gr Ft Co	3.05
Rialto Girl	3.03
Stock Label	2.80
Blue Mt. P & McKevitt	2.60
Pointer A C G Ft Ex Glen	3.11
ST. MICHAELS—	
Victory C C U	2.77
Pointer A C G Ft Ex Azusa	3.04
Green Crown	2.60
Red Crown	2.80
Pointer A C G Ft Ex Glen	3.87
BLOODS—	
Rancho S B Ft Ex Colt	2.49
Stork	2.63
LEMONS—	
Rossmoyne E M Ross	2.09
Coyote O K Ft Ex	1.50

CLEVELAND, May 25.—Weather hotter. Market firm on good fruit. Six carloads sold; six on track.

NAVELS—	
Yankee Doodle High Ft Ex	3.25
Golden Riv Ft Ex	2.75
La Mesa Riv Ft Ex	3.75
Coyote O K Ft Ex	3.65
ST. MICHAELS—	
Victoria A H Ft Ex	3.45
RUBY BLOODS—	
Square Riv Ft Ex	3.15
Yankee Doodle Riv Ft Ex	2.85
LEMONS—	
Pet S A Ft Ex San Dimas	3.40
Greyhound S A Ft Ex S Dimas	3.50
Duck S A Ft Ex San Dimas	3.55

ABORTION IN COWS.

A valuable booklet has just been received from the author, which we imagine would be valuable in the hands of every dairyman in this State. It is written by David Roberts, D. V. S., State Veterinarian of Wisconsin, who is also author of the "Practical Home Veterinarian." The book treats on the nature of the disease, effects, how to prevent, relation to other diseases, and ends with the claim that it may be easily prevented. The book is published by the David Roberts Veterinary Company, Waukesha, Wsconsin.

TIRED OUT.

The farmer, at the end of the luncheon, took a liqueur and coffee, and lighted a cigarette.

"Jerome," he said to his oldest son, "press the button, please, and set the automatic plows to work again."

"Oh, bother!" growled Jerome. "Let Clarence do it; I'm tired."

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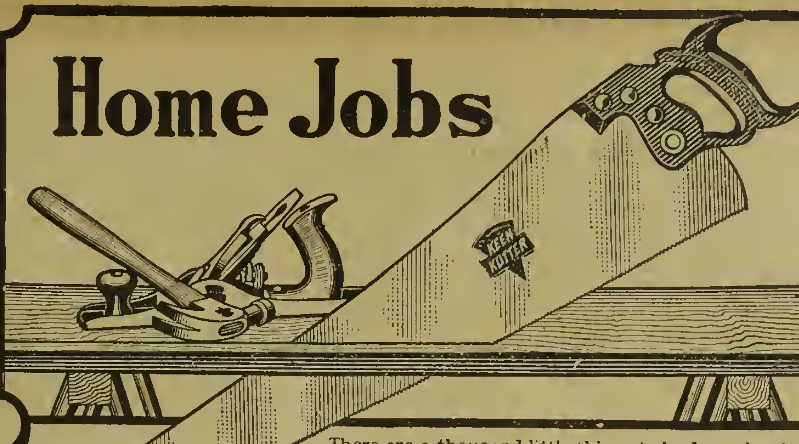

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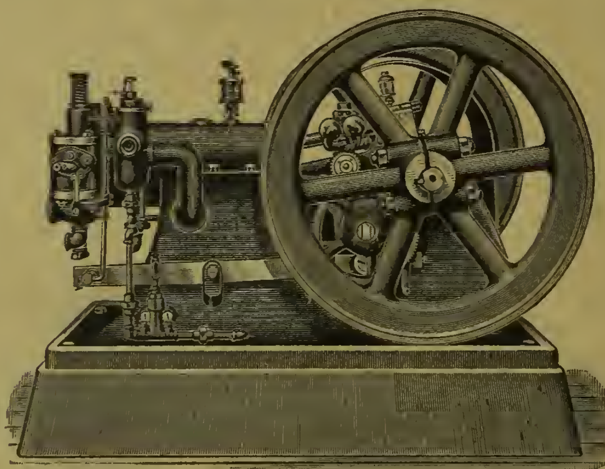

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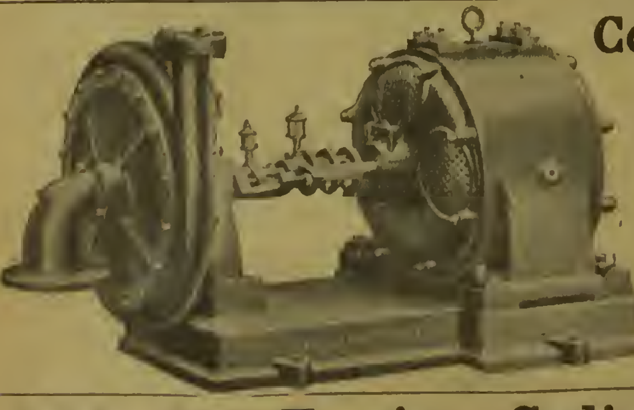

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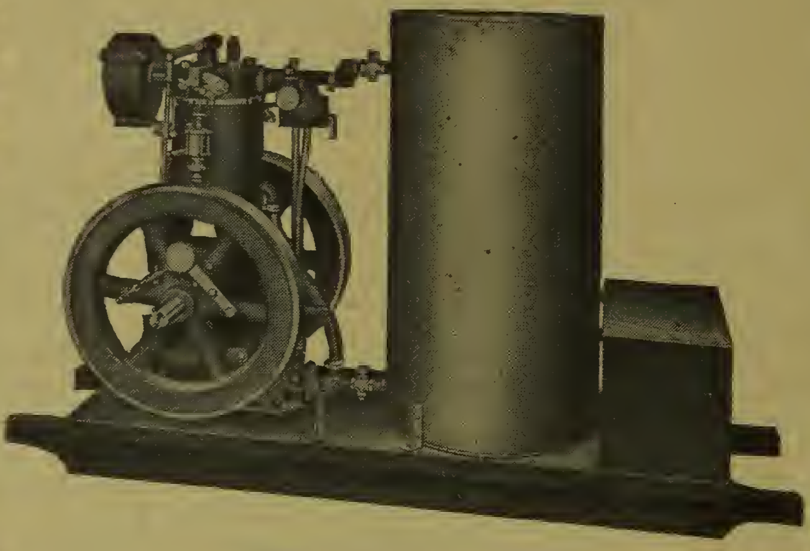

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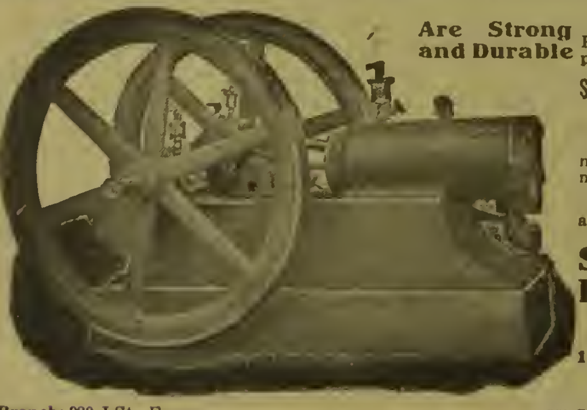

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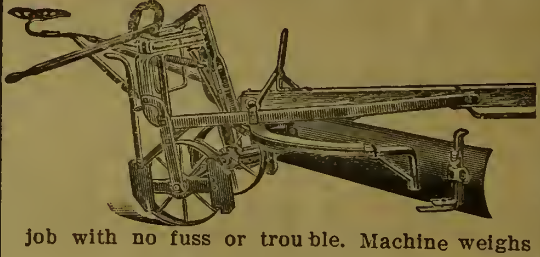

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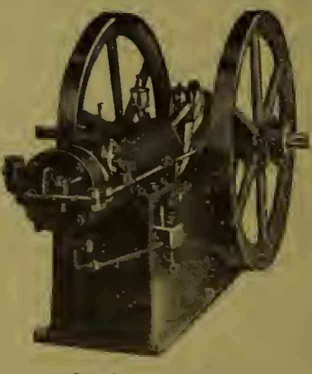

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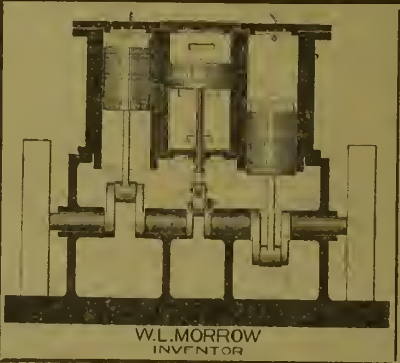

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California Cultivator

XXX—No. 23 Los Angeles, California, Thursday, June 4, 1908 Subscription $1 a Year

ulphured Fruit and the Pure Food Law

An Address Before the State Fruit Growers Convention at Riverside, April 30, 1908

By ARTHUR R. BRIGGS, President of the State Board of Trade

E people of no State in the Union were iore zealous advocates of a National Pure ood Law than were the people of Califor- Adulteration of food products in other States, sted the need of statutory regulation in the st of life and health and as a protection anufactures of pure food products. There- gratification and general approval were ex- ed on the part of producers in this State, Congress on June 30th, 1906, passed the onal Food and Drugs Act." One of the pal features of the Act was to prevent the facture, or sale, of adulterated or deleteri- ood products, and it prescribed the method which adulterated foods and drugs might be

w comprehensively the term "deleterious " was to be interpreted, how a determina- vas to be made in respect to them, and the of manufacturers and producers pending a mination, were matters too remote for im- ite consideration and excited little interest. , as the law was put in operation and its was brought to their attention, manufact- and distributors of food products were much ised over the particular features of the which affected their business.

der the Act three cabinet officers were ed with the duty of making rules and regu- s for carrying out its provisions, the spe- terms being set forth as follows:

c. 3. That the Secretary of the Treasury, Secretary of Agriculture and the Secretary mmerce and Labor, shall make uniform and regulations for carrying out the pro- ns of this Act, including the collection and ination of specimens of foods and drugs factured or offered for sale in the District lumbia, or in any Territory of the United s, or which shall be offered for sale in un- en packages in any State other than that hich they shall have been respectively manu- red or produced, or which shall be received any foreign country, or intended for ship- to any foreign country, or which may be itted for examination by the chief health, or drug officer of any State, territory or the ict of Columbia or at any domestic or for- port through which such product is offered nterstate commerce or for export or import een the United States or any foreign port or try."

ec. 4. That the examinations of specimens ods and drugs shall be made in the Bureau of nistry of the Department of Agriculture, or r the direction and supervision of such Bu- for the purpose of determining from such inations whether such articles are adul- ed or misbranded within the meaning of this

e Bureau of Chemistry of the Department of culture, by the Act, is made the agency for ination of products, and the head of that ch of the Department, therefore, occupies a ion of much importance. The point of y seemed to be, that it rested with the Sec- ry of Agriculture, jointly with the Secretary e Treasury and the Secretary of Commerce Labor, to promulgate rules and regulations carrying out the provisions of the Act. It further provided:

ec. 7. That for the purpose of this Act an article shall be deemed to be adulterated: . . . In the case of food:

"If it contain any added poisonous or other added deleterious ingredient which may render such article injurious to health: Provided, that when in the preparation of food products for shipment they are preserved by any external application applied in such manner that the preservative is necessarily removed mechanically or by maceration in water or otherwise, and directions for the removal of said preservative shall be printed on the covering or the package, the provisions of this Act shall be construed as applying only when said products are ready for consumption."

No special concern on the part of those interested in fruit was felt, as to the effect of the law as expressed in the Act. It was not until the "Board of Food and Drug Inspection" suggested, and the Secretary of Agriculture promulgated, on July 13, 1907, "Food Inspection Decision 76."

This decision was deemed drastic in its terms and made a large portion of the fruit dried in, and marketed from this State, contraband under the law. It says:

"It is provided in Regulation 15 of the rules and regulations for the enforcement of the Food and Drugs Act, that the Secretary of Agriculture shall determine by chemical or other examinations those substances which are permitted or inhibited in food products; that he shall determine from time to time the principles which shall guide the use of colors, preservatives and other substances added to foods; and that when these findings and determinations of the Secretary of Agriculture are approved by the Secretary of the Treasury and the Secretary of Commerce and Labor, the principles so established shall become a part of the rules and regulations for the enforcement of the Food and Drugs Act.

"The law provides that no food or food product intended for interstate commerce, nor any food or food product manufactured or sold in the District of Columbia or in any Territory of the United States, or for foreign commerce, except as hereinafter provided, shall contain substances which lessen the wholesomeness or which add any deleterious properties thereto. It has been determined that no drug, chemical or harmful or deleterious dye or preservative may be used. Common salt, sugar, wood smoke, potable distilled liquors, vinegar and condiments may be used. Pending further investigation, the use of saltpeter is allowed.

"Pending the investigation of the conditions attending processes of manufacture and the effect upon health, of the combinations mentioned in this paragraph, the Department of Agriculture will institute no prosecution in the case of the application of fumes of burning sulphur (sulphur dioxide,) as usually employed in the manufacture of those foods and food products which contain acetaldehyde, sugars, etc., with which sulphurous acid may combine, if the total amount of sulphur dioxide in the finished product, does not exceed 350 milligrams per liter in wines or 350 milligrams per kilogram in other food products, of which not over 70 milligrams is in a free state."

"The label of each package of sulphured foods or of foods containing sodium benzoate or benzic acid, shall bear a statement that the food is preserved with sulphur dioxide, or with sodium benzoate or benzoic acid, as the case may be, and the label must not bear a serial number assigned to any guaranty filed with the Department of Agriculture nor any statement that the article is guaranteed to conform to the Food and Drugs Act."

It is well known that sulphur is almost universally used in this State in drying peaches, apricots and pears and to quite an extent in drying plums and apples. It is admitted that the fruit when dried, in its raw state, contains a greater percentage of "sulphur dioxide," produced by the fumes of burning sulphur, than 350 milligrams per kilogram or an equivalent of 35-1000 of one per cent. Experience has shown that the use of sulphur was a necessity, in order to produce dried fruit of the color and quality required for consumption in any market. It has also demonstrated that at the unit fixed by ruling 76, viz.: 35-1000 of one per cent, the fruit would not keep for storage nor shipment to distant markets, nor could it be dried without serious loss from decay during the drying process. A large part of the dried fruit cured in this State did not come within the limit prescribed in Decision 76 and was, therefore, contraband, subject to seizure and confiscation as unwholesome and deleterious product. The decision provided that "pending investigation of conditions attending processes of manufacture and the effects on health" that the Department of Agriculture would institute no prosecutions against fruit containing sulphur dioxid when prepared in the usual manner.

This provision did not furnish sufficient assurance of safety, for the reason that the time of immunity granted was indefinite and very uncertain.

Strong representation was made to Secretary Wilson setting forth in forcible manner the disastrous effect Decision 76 would have from this indefinite feature as to time on the fruit interest of the State. The secretary visited California during the curing season of the year 1907, and afforded opportunity, both public and private for and representations or demonstrations in respect to fruit drying in the State that were sought to be made. Under assurances given by Secretary Wilson, the busines of drying, packing and distributing fruit during 1907 went forward without much interruption.

At the beginning of the year 1908, Decision 76, by reason of limitation as to qualification for the previous year, was in force as a part of the rules and regulations for the enforcement of the "Food and Drugs Act." Uncertainty as to the future policy of the department and the apparent attitude of hostility on the part of the Bureau of Chemistry, in charge of Dr. H. W. Wiley, excited apprehension, caused a stagnation in the fruit industry in the State, and made further effort on behalf of growers and distributors necessary.

During the season 1907 large sums had been expended by the Bureau of Chemistry, under direction of the Agricultural Department, in obtaining samples of fruit cured by use of sulphur, in studying the processes of manufacture, in making scientific tests and in supplying information on which the department might be able to fix a permanent safety unit of sulphur dioxide, in fruit, and thus restore confidence to the fruit industry. It was presumed when the Bureau of Chemistry began its investigations in California that the findings would be made public through the de-

Continued on page 631.

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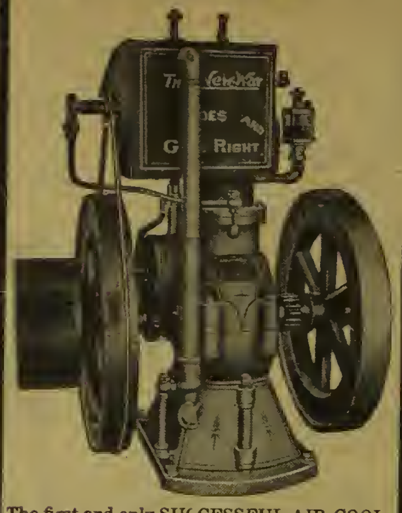

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1½ "	2.68 "	6.50	8.00
2 "	3.61 "	9.00	11.00
2½ "	5.74 "	15.00	17.50
3 "	7.54 "	18.25	21.25
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With the Citrus Growers

A MODEL PACKING HOUSE.

IT WAS our pleasure the other day to visit the packing house of Mr. C. E. Rumsey at Pachappa. This house is built with the idea of handling the fruit as little and as carefully as possible.

The fruit is loaded on especially made wagons built low so that the boxes of fruit may be wheeled from the wagon into the packing house on trucks which have rubber tires. The general features of the packing house are the same as most of recently built houses, excepting that it is provided with ventilators which can be adjusted to a nicety, making the main part of the building one so that it can be closed tight or opened wide with all the intervening degrees of ventilation at the operators command.

The fruit is dumped into an inclined feeder that has an automatic dumping apparatus that prevents the fruit from being piled up, allowing only a certain amount of fruit to roll out of the boxes during the dumping process. As the fruit rolls out of the box it is held slightly in check by a heavy canvas curtain that hangs down in front of the fruit as it leaves the box so that the fruit that is at the top of the pile does not shoot across the inclined plane that leafs to the grading belts. Before reaching the belts, the fruit passes over a space in which rubber covered slats with spaces between allow the trash that may be in the boxes, to fall through. The fruit is then passed and graded in the usual way with the machinery that is used in all the latest improved packing houses till it gets to the packers. Here each packer is instructed to use the utmost care in making an attractive pack. The boxes are all cleated so as to get a high pack. This is supplemented by putting a high cleat across the top of the partition so as to prevent the orange from getting in contact with the sharp edges of the top of the partitions. The packed boxes are placed on a long table which has a stationary carrier with ballbearing rollers over which a box of oranges will glide the whole distance of the packing house with a slight push by the hand. These roller carriers convey the packed boxes to the bench where the tops are nailed on. Here is a press with side adjustments that prevent the top oranges from being pinched while the top is being pressed down. From the topping bench, the boxes are run into the car on the same kind of a carrier, only the boxes run by gravity into the cars. The benches by the packers and running parallel with the stationary carriers, enable the topper to select the sizes he wishes to put into the car, those not required at the time, being left on the benches, all that is required when those held in reserve are called for, is to push them on the carrier and give a gentle push with the hand and they go sliding down to the topper who, after nailing the tops in, feeds them into the car, as he sets them off of his bench.

In this house, not an orange is touched with the hand; in fact, they are not touched with the hand at all, even the pickers are required to use gloves to cover the finger nails. There is not a detail overlooked where the fruit may be saved from injury from the time it leaves the tree till it finds its way into the car.

In each car is placed an addressed envelope containing the packer's number and a request that the consumer mail back to Mr. Rumsey any complaint that may be occasioned by an unsatisfactory condition of the fruit.—J. W. Mills.

SUMMER CULTIVATION.

Cultivation of orchards was discussed at length at the recent institutes with much benefit, considering that it is such a time-worn subject. The general impression seemed to prevail, that deep plowing was not the best method to follow when the character of the soil will permit shallow cultivation. The point to keep in mind is to provide a mulch that will act like a blanket and prevent evaporation. As soon as the loose top earth settles so that a communication is started between it and the subsoil, the water in the soil at once starts upward. The mulch should be thick enough to prevent the heat of the day from driving out the moisture by heating it. In light sandy soils this condition is easily made without the use of a plow. The cultivator is much cheaper and the work is more conveniently done. Instances were cited where light soils had been handled without even a cultivator being used, merely a harrow to mellow the surface in conjunction with plenty of stable manure and some commercial fertilizer. Others had good results where the soil was about the same, and deep plowing was practiced both ways every year, with less irrigation. It was asserted by some growers who had done considerable experimenting with both plowing and cultivation, that they had better results when they cultivated without plowing first. They grew green crops and disked them several ways till the vegetation was all worked into the surface, and when that was well rotted, they cultivated with a straight, narrow-toothed cultivator.

It was generally conceded that in heavy soils it was necessary to plow deep enough in the late winter to get below the line of depth of the cultivator teeth in order to break up the crust caused by the constant rubbing on the teeth at that point.

Taking all evidence into consideration, it seems best to allow the trees to maintain their natural habit of shallow rooting to a point where it does not interfere with maintaining a satisfactory dust mulch. Where these conditions prevail, larger crops of fruit have been the result. Shallow rooting, however, seems to tend to early ripening and this means early dropping in the case of Washington navels. If these conditions will always prevail, no doubt the time will come when growers will manipulate their groves so that they will have early and late fruit. This will be quite an advance in citrus culture, and indicates that many possibilities are in store for this line of horticulture.—J. W. Mills.

NOT LOST.

A "Big Indian" strayed away from his camp and got lost. Inquiring the way back, he was asked: "Indian lost?" "No." said he, disdainfully, "Indian no lost—wigwam lost." Striking his breast, he exclaimed, "Indian here!"

Apricots over the San Joaquin Valley will be very heavy this season.

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Become an inv
or at once. W
now to insure c
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all right in Mexi
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ʖalifornia Horticulturally

A GOOD FRUIT SEASON.

HERE is no question at the present writing as to the fruit crop of the present season. From all rts of the State, and in relation to varieties of fruit, come the same ɔorts, that it is the heaviest crop ıt has set in many years past. All .sses of fruit, with perhaps the exption of prunes, will yield very avily, and of the latter there will ɔbably be at least a fair crop. In principal prune sections there is ıch complaint of the dropping of young fruit, which will materially sen the output, especially in the nta Clara district. In other parts the State prunes are setting bet-, and on the whole, we may expect fair crop of prunes in addition to a ry large crop of all other fruits.

A VALUABLE INSECTICIDE.

Aerial insects, those which work ove ground and in the open, are comparatively easy control. We n reach them with sprays or poiss or caustic washes, and while it quires much trouble and considera- expense to control them we can, we please, hold them in check. bterranean pests, however, are ite another matter. These are ose which burrow beneath the ound, and are safely out of reach ordinary applications. In this oup are the dreaded phyloxera of grape, the wooly aphis of the ap-, cut worms and the myriad of ıaller pests, which have been so beyond our reach, and which have rried on their destructive work in ite of all our efforts to check them. ıe Cooper Research Laboratory, of rkhamstead, England, one of the gest and most reliable institutions its kind in the world, claims to ve discovered a preparation which ll penetrate the soil and destroy bterranean pests as readily as rays or gases will destroy aerial ms. This substance is in the form a powder and is dusted over the rface and covered. It has been med "Apterite," and writing of it, of. Walter E. Collinge says: "Apite is quite distinct from, and a eat advance upon, any of the soiled soil insecticides, for the active inciple works upwards and downırds." If Apterite will do even a rt of what is claimed for it, it will ove one of the greatest boons the chardists and agriculturists have er had, for it is the underground sts which do the greatest damage at e present time.

QUARANTINE ON COTTON SEED.

It is pleasant to note that the De-ırtment of Agriculture at Washingn not only respects the efforts of ılifornia to protect herself against w pests, but is willing to assist in e work. This has been evidenced in e suggestion received from the deırtment that there was danger to be ɔprehended in the importation of cotn seed from infested sections of the ɔuthern States and that it would be ell to take precautions against the ɔtton boll weevil, which is such a arful pest there. California is not, has not been, a cotton producing ate, but now there are to be some tensive experiments in cotton growg made in the Imperial valley, and this end cotton seed in bulk is ɔout to be imported. The weevil ɔes not attack the seed, but where this is kept in bulk, there is always danger that the pest may have found lodgment amongst it. For these reasons, Horticultural Commissioner Jeffrey has declared a quarantine against all cotton seed, and prescribed a careful inspection and fumigation before it can be delivered to the planters. Certain sections of Southern California have been designated as points of entry, and only through these can the seed be entered. The precaution is a wise one, for while cotton is the chief food plant of this pest, there is a probability that, if this food were scarce, it might betake itself to something else. You cannot always tell what an isect introduced into a new section will do.

TO PROTECT USERS OF INSECTICIDES.

A bill was drawn up, and an effort made to get it before congress, requiring manufacturers of insecticides to guarantee their composition. It also provided for their inspection and analysis by the Bureau of Chemistry, and the punishment of persons selling fradulent insecticides or fungicides. In this State we already have a law providing for the inspection of Paris green and defining the minimum quantity of arsenious acid it shall contain, but a general law, such as the one proposed, would certainly be much better and is much needed. It is in line with the pure food law, and the fertilizer laws of the different States, and is designed to afford protection to the fruit grower and farmer in the use of remedies against his insect and fungus foes. Fraud in such matters, not alone cheats the purchaser out of the purchase price, but robs him infinitely more, in his labor and the year's income of his property. The measure is a good one, and it is to be hoped that it will become a law at an early date.

IRRIGATION IN NORTHERN COUNTIES.

The great shortage in the normal rainfall has made irrigation in the northern fruit section a necessity, and orchardists have been using water for the past month. In most sections the winter rainfall is usualy ample to fill the ground, and by cultivation it can be conserved for the trees and the artificial application of water is unnecessary. This season, however, it is the reverse and irrigation has become an absolute necessity. In Sutter county very many wells have been dug and pumping plants installed, and in many parts where drainage has heretofore been the rule, irrigation is now being resorted to.

TAKING NO CHANCES.

In the face of the employers' liability law, we notice that some of the larger canning companies are preparing themselves against contingencies, by taking out indemnity policies, by which they are guaranteed against loss by lawsuit or otherwise, in case of accident to employees. By paying the premium, the company is relieved from responsibility and the insurance company assumes it. It is more than probable that an injured employee would have a big lawsuit on hand before the insurance company would pay.

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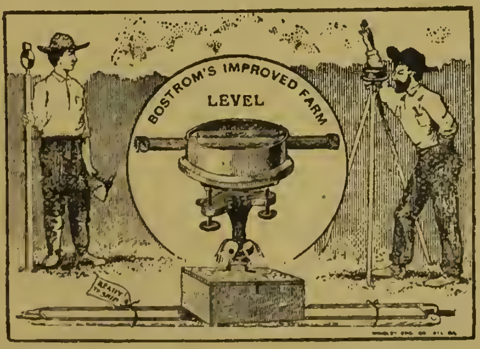

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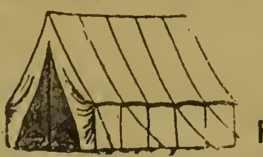

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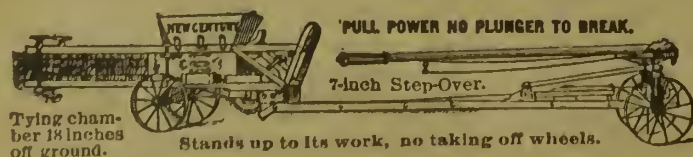
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Table of California Insect

An Interesting Classification of Bugs With Which the Farmer Has to Deal Arranged and Given Correct Pronounciation

By PROF. A. J. COOK of Pomona College

IT is desirable that we have the correct names of such insects as filch from our hard earned possessions as also of our insect friends, and so I make no apology for appending
the following tables with the ann
tions. I will first give the dest
tive insects that I have myself
at work; the most of which, an
most destructive of which are the
eral scale pests:

COMMON NAMES	SCIENTIFIC NAMES.	FAMILY.	PLANTS ATTACK
Fluted, white or cottony cushion scale.	I-ce-ry-a pur-cha-si.	Coc-ci-dae.	Citrus, rose, grass cia, etc., et
Mealy bugs.	Pseu-do-coc-cus (Dac-ty-lo-pi-us) cit-ri.	"	Citrus, coffee, t ivy, etc., etc
Maple scale.	Pul-vi-na-ri-a in-nu-mer-ab-i-lis.	"	Tobacco, ivy, etc., etc.
Soft or soft brown scale.	Coc-cus (Le-ca-ni-um) hes-per-i-dum.	"	Citrus, oleand camellia, etc.
Apricot scale.	Eu-le-ca-ni-um Le-ca-ni-um) ar-me-ni-a-cum.	"	Apricot, pear cherry, prun
Frosted scale.	Eu-le-ca-ni-um Le-ca-ni-um) pru-i-no-sum.	"	English walnut, apple, pear, e
Hemispherical scale.	Sais-se-ti-a Le-ca-ni-um hem-i-spher-i-ca.	"	Orange, oleande cos, ferns, pe
Black scale.	Sais-se-ti-a (Le-ca-ni-um) o-le-ae.	"	Citrus, oleander apple, pepper,
Oleander or ivy scale.	As-pi-di-o-tus hed-e-rae (A. ne-re-i.)	"	Oleander, ivy, o acacia, apple, etc.
Walnut scale.	As-pi-di-o-tus jug-lans-re-gi-ae.	"	Walnut, apple a cherry, etc., et
San Jose scale.	As-pi-di-o-tus per-ni-ci-o-sus.	"	Most deciduous and many othe
Greedy scale.	As-pi-di-o-tus ra-pax.	Coc-ci-dae.	Citrus, apple ivy, walnut, et
Red scale.	Chrys-om-pha-lus (as-pi-di-o-tus) au-ran-ti-i.	"	Citrus, apple olive, fig, et
Yellow scale.	Chrys-om-pha-lus (as-pi-di-o-tus) au-ran-ti-i cit-ri-nus.	"	Citrus, euonymu on-y-mus,) etc
Purple scale.	Lep-i-dos-a-phes beck-i-i (Mi-tyl-as-pis cit-ric-o-la.)	"	Citrus, oak, b rose, etc.
Pear slug.	Er-i-o-cam-pa cer-a-si,	Ten-thre-din-i-dae.	Pear, cherry.
Cabbage butterfly.	Pi-e-ris ra-pae.	Pa-pil-i-on-i-dae.	Cabbage, rape, e
Willow butterfly.	Eu-va-nes-sa an-ti-o-pa.	Nym-phal-i-dae.	Willow, elm.
Variegated cut worm or Cal. army worm.	Per-id-ro-ma sau-ci-a	Noc-tu-i-dae.	Oranges, alfalfa den, vegetables
Codling moth.	Car-po-cap-sa po-mo-nel-la.	Graph-o-lith-i-dae.	Apple, pear etc.
Hessian fly.	Cec-i-do-my-i-a de-struc-tor.	Cec-i-do-my-i-i-dae.	Wheat stem.
Mexican orange fly.	Try-pe-ta lu-dens.	Try-pet-i-dae.	Orange fruit.
Apricot beetle.	Ser-i-ca fim-bri-a-ta.	Scar-a-bae-i-dae.	Grub eats root tle, foliage.
Apricot beetle.	Ser-i-ca mix-ta.	"	"
Lawn white grub.	Li-gy-rus gib-bo-sus.	"	Grass roots, foli
Twelve-spotted leaf-beetle.	Di-a-brot-i-ca so-ror.	Chrys-o-mel-i-dae.	Garden foliage etc.
Grape flea-beetle.	Hal-ti-ca cha-lyb-e-a.	"	Grape foliage.
Fuller's rose-beetle.	A-ram-i-gus ful-ler-i.	O-ti-o-rhyn chi-dae.	Roots of plants, foliage ange, etc.
Bean weevil.	Bru-chus ob-tec-tus.	Bru-chi-dae.	Beans in pod.
Pea weevil.	Bru-chus pi-si.	Bru-chi-dae.	Peas in pod.
Wire worms; click beetles.	Mel-a-no-tus sp.	El-a-ter-i-dae.	Alfalfa, etc., et
Bigheaded borer.	Chrys-o-both-ris fem-o-ra-ta.	Bu-pres-ti-dae.	Apricots, apples etc., etc.
Plant lice.	Phyl-lox-e-ra vas-ta-trix.	Aph-i-di-i-dae.	Grape.
Plant lice.	A-phis sp.	"	Melons, peas, et
White fly.	Al-ey-ro-des cit-ri.	Al-ey-rod-i-dae.	Orange, etc.
False chinch bug.	Nys-i-us de-struc-tor.	Ly-gae-i-dae.	Grapes and man den vegetables

In giving this list, I have given the pronunciation, as I have had frequent inquiries from our numerous horticultural commissioners and inspectors regarding the same. In the names contained in these following lists, the long English sound is to be given to vowels in acented sylables ending in a vowel, as in Le-ca-ni-um; when final, as in **beck**-i-i; and in final es, as in Al-ey-**ro**-des; elsewhere, in general, the short sound, as in Coc-ci-dae; ch has the sound of k, as in Chal-cid; g before e, i, ae or oe has the sound of j, as in Li-gy-rus; oe and ae are pronounced like e, as in koeb-el-ae.

Accented sylables are indicated by blackface type.

The frequent and perplexing changes in names is necessary. There are two reasons for such changes, both of which are conclusive: one, the law of priority; the other, the avoidance of duplicating names in
closely related groups. Of cours
necessity of uniformity makes
perative that we have some rule
shall be observed by all. Let me
that in writing a name, the fi
generic name should always be
talized; the species never. E
we could have Vedalia roosev
Vedalia powelli the r and p wo
small letters not capitals.

The next table will give our
friends; and let me add that
friends belong to two distinct g
the parasitic insects, those that
inside their victims, like the g
Chalcid of the yellow scale; and
predaceous species, those that d
their prey as does the cat the m
The Vedalia and, indeed, all the
bird beetles belong in the latter g

Of the parasitic group we
three families; the Chalcids, Ich
monids and the Braconids; and
family of the Diptera, or two
flies, the Tachinids. I give the
this order in the following table:

ION NAMES	SCIENTIFIC NAMES.	FAMILY.	INSECT ATTACKED.
n chalcid	As-pld-i-o-toph-a-gus cit-rl-nus.	Chal-ci-dac.	Yellow scale.
Jose scale cid.	A-phel-i-nus fus-ci-pen-nis.	"	San Jose scale.
y scale chal-	A-phel-i-nus di-as-pi-dis.	"	Greedy scale.
y scale chal-	A-phel-i-nus myt-il-as-pi-dis.	"	Greedy scale, etc.
ot scale chal-	Co-mys fus-ca.	"	Apricot scale.
oak moth cid.	Chal-cis o-va-ta.	"	Oak moth.
scale chalcid.	Coc-coph-a-gus le-ca-ni-i.	"	Soft brown scale.
v scale chal-	Coc-coph-a-gus lu-na-tus.	"	Yellow scale.
v scale chal-	Coc-coph-a-gus au-ran-ti-i.	"	Yellow scale.
v scale para-	A-phy-cus im-mac-u-la-tus.	"	Yellow scale.
v scale para-	En-cri-tus fla-vus.	"	Yellow scale.
v scale chal-	Sig-niph-o-ra cal-i-for-ni-ca.	"	Yellow scale.
ge butterfly lcid.	Pter-o-m-a-lus pu-pa-rum.	Chal-ci-dae.	Cabbage butterfly.
scale chal-	Les-toph-o-nus i-ce-ry-ae.	"	White scale.
scale chal-	O-pho-lo-si-a craw-for-di.	"	White scale.
llista.	Scu-tel-lis-ta cy-a-ne-a.	"	Eggs of black scale.
scale chal-	Tom-o-ce-ra cal-i-for-ni-ca.	"	Eggs of black scale.
otica chalcid.	Cel-a-tor-i-a craw-i-i.	"	12 spotted leaf beetle.
ling moth asite.	Cal-li-e-phi-al-tes mes-sor.	Ich-neu-mon-i-dae.	Codling moth.
moth parasite.	He-mit-e-les ash-mead-i-i.	"	Oak moth.
moth parasite.	Pimp-la con-qui-si-tor.	"	Oak moth caterpillar.
l parasite.	A-phid-i-us sp.	Bra-con-i-dae.	Plant lice.
worm ta- -na.	Win-the-mi-a 4-pus-tu-la-ta.	Mus-ci-dae.	Army worm.
worm para- a.	Fro-tin-i-a french-i-i.	"	12-spotted leaf beetle.

e Tachina flies lay their eggs on outside of their victims, while others usually place them within bodies of the insect parasitized.

ny predaceous species belong to ee and wasp order, Hymenoptera, include all the wasps; the two-ed order, Diptera, where we find Syrphus flies, and the robber flies, the latter of which even kill bees; and the order of beetles, Coleoptera, which includes the army worm destroyer and the ladybird beetles. To the family of the ladybird beetles belongs the well known Vedalia. We also have many bugs and lace-wing flies which are predaceous. I give the following table of the most important ones:

MON NAMES	SCIENTIFIC NAMES.	FAMILY.	INSECT ATTACKED.
worm de- oyer.	Cal-o-so-ma sem-i-lae-ve.	Ca-rab-i-dae.	Army worm caterpillar.
ground bee- s.	Various species.	"	Caterpillars, etc.
ce - stabbed ybird.	Chi-loch-o-rus bi-vul-ne-rus.	Coc-ci-nel-li-dae.	Black scale.
rted Chinese ybird.	Chi-loch-o-rus sim-i-lis.	"	San Jose scale.
ornia lady- d.	Coc-ci-nel-la cal-i-for-nl-ca.	"	Plant lice.
ladybird.	Coc-ci-nel-la san-gui-na.	"	Plant lice.
y-bug lady- d.	Cryp-to-lae-mus mon-trou-zie-ri.	"	Mealy-bugs.
e's ladyblrd.	Ex-o-cho-mus pi-la-te-i.	"	Black scale.
y-bug lady- d.	Hy-per-as-pis lat-er-a-lis.	"	Mealy-bugs.
guous lady- d.	Hip-po-da-mi-a am-big-u-a.	"	Plant lice.
ed ladybird.	Hip-po-da-mi-a con-ver-gens.	"	Plant lice.
la.	No-vi-us (Ve-da-ll-a) car-di-na-lis.	"	White scale.
e'es ladybird.	No-vi-us koeb-e-lae.	"	White scale.
blue ladybird.	Or-cus cha-lyb-e-us.	"	Red scale.
ted orcus.	Or-cus aus-tra-la-si-ae.	"	Black scale.
obius.	Rhi-zo-bi-us ven-tra-lis.	"	Black scale.
le scale rhizo- is.	Rhi-zo-bi-us lo-pan-thae.	"	Purple scale.
l rhizoblus.	Rhi-zo-bi-us deb-l-lis.	"	Black scale.
ladybird.	Scym-nus va-gans.	"	Bryobia mite.

ere are numerous bugs that help eep down our various pests. The wings, especially the Chrys-o-pa or green-wing Chrysopa is of al note as an enemy of the plant

r. Pease has called attention to fact that most of our dreaded s, many of which would be terv serious, are held in check almost rely by their insect enemies. The brown scale and the cottony ion scale are striking examples. of these scales are exceptionally ific, yet both are rendered harm, and the last by an imported spe, the Vedalia.

here are four species of scale ins, the red, purple, black and yelscale, which when present seriousnjure and in time ruin our citrus es. Thus in many sections, imity from harm means great annual ense. Massachusetts, after spend well toward a million dollars in bating the gipsy moth and the red moth, has now done what Califors experience might have suggested he start, imported their European mies, and already substantial prog; is made in overcoming these two alarming scourges. The devastation of the cotton boll weevil of the Southern States was so threatening that large appropriations have been made by Congress to secure effective remedies against it. We now have the encouraging report that native parasitic and predaceous species have come to the rescue and are promising to be effective in staying the evil wrought by this snout beetle. We should remember always that these insect friends "work for nothing and board themselves." We are grateful for the discovery of such efficient remedies as gassing with cyanide, but how much more grateful for the introduction of such species as the Vedalia, for we are thus saved all anxiety as well as the great expense and labor of fighting our pests. Mr. Bemis shows us that we must gas unless our friends are masters of the situation. To wait for the Scutellista or Golden Chalcid until our groves are ruined or materially injured by the black or yellow scale, is the height of folly. The wise course would seem to be to fight our pests by the best method, unless their enemies are sufficient to keep them down; and in case we do not now have efficient parasites or predaceous species, to hunt for them with the keenest vision that we can secure.

This brings me to the climax of the whole matter: We must listen to the wise words of Professor Vernon L. Kellogg spoken at the Marysville meeting; we should have at once a State entomologist. Think of it! Despite all the losses our gross returns from our orchards are something like seventy-five million dollars. If, as good authority has it, twenty per cent of this sum, or one-fifth, is sacrificed through insect ravages, then we see that our annual loss is from twelve to fifteen million dollars. When we add to this the immense sum expended yearly in fighting our foes, we have data that should induce immediate action. We cannot estimate the great benefit that has come through Harris, Fitch, Walsh and Riley, not to mention a host of other workers in this important field. Millions would not measure the benefit to our country derived from Riley's extensive researches, while State Entomologist of Missouri. With so much at stake, we should see to it at once and insist that we have the most competent man that we can procure and equip him, as suggested by Professor Kellogg, with assistants and means to travel and inevstigate, and should pay a salary that would secure the ablest talent to be found. This man should be free from the influence of politics and responsible only to the fruit rowers. His whole time and energy should be devoted to research in practical entomology. The Professors at the University have teaching that distracts, and our able entomologists now connected with the State Horticultural Commission, have duties in relation to quarantine and breeding insects that disqualify them for this huge work. It is a field that would take the entire time and tax the energy to the utmost of the best man that can be secured. With the right man, miillons would be saved annually to our fruit growers. When we consider our immense orchards, the enormous production, and the frightful loss from insect ravages, it seems strange that our fruit men, usually so full of enterprise and energy have not, long ere this, insisted that we have a State Entomologist who shall give his entire time to the study of our insect foes. It would be wise economy if the Horticulture Board should add to their present force a man to give his entire time to field work and investigations concerning insects.

WALK 2450 MILES.

Over mountains and through snow, through wet, slush and mud, freezing at times, and oppressed by heat at others, William Jackson and R. T. Hay, two sturdy Scotchman, walked every mile of the way from Seattle to Chicago, just arriving within a few hours of the time limit, thereby winning a purse of Fifteen Hundred Dollars given by the Seattle Athletic Club.

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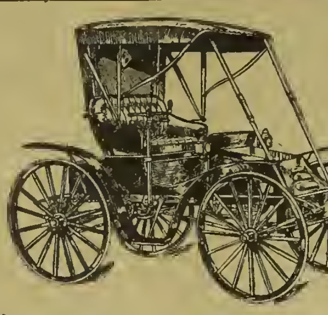

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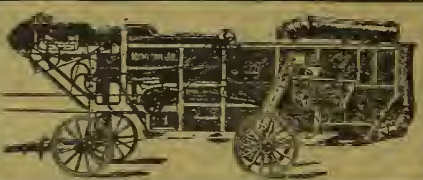

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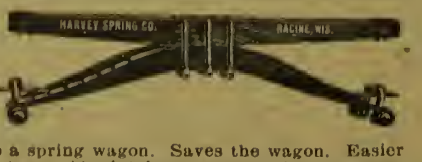
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BULBS.

Bulbs for the garden and house should be planted in rich, deeply worked garden soil, set, according to the size of the bulb, at a depth of from two to four or more inches.

As the blossoms from these are so very striking and ornamental it is desirable to locate the beds where they may be seen both from the windows of the living room and from the street. As a broad border beside the house they will give satisfaction on any side except the north, but a south and east exposure are good. They may be planted in quite close rows, where great space cannot be afforded.

For house culture jonquils and daffodils may be planted in pots—the larger bulbs singly and the small ones, like those of the crocus and ixia, four or six in five-inch pots filled with rich earth mingled with about one-third sand with lumps of charcoal for drainage. After planting stand in cellar for a few weeks, watering occasionally until well rooted, when the pots may be brought, in succession, to a sunny window where they will soon be in full bloom.

For mantel or bracket ornaments hyacinths and the white paper narcissus and Chinese sacred lilly may be grown in regular bulb glasses or dishes. These must be washed and rinsed to perfect clearness and for hyacinths filled with pure water to the base of the bulb, which has a bowl-like expansion fitted for its reception where it must just touch the water. The bulb glasses are then set in a dark closet until the roots have filled the lower part of the glass, and the bud is showing. This will require from four to six weeks, when it may be brought into the light to complete the development of the flower truss.

The bulbs of the narcissi are planter several together, among small, well-washed pebbles in a deep ornamental dish and placed at once in a good light, but not in direct sunshine. These will soon begin to grow and produce a succession of blossoms for six or eight weeks. Other small bulbs not so generally grown, but very attractive, are the ixias and sparaxis, popularly known as "rainbow flowers" from their variegated colors.

INSECTS ON HOUSE PLANTS.

Give the plants a bath of tobacco water once a month. Take a 5-cent package of tobacco, put in a pail and pour about half a gallon of boiling water over it. When this is cooled, pour it off and dilute until it is the color of weak tea. Dip the plants into this, completely covering them. Let them dry and then repeat the process. When they have dried the second time, thoroughly spray with clear water until the tobacco is quite washed off. Plants treated is this way will seldom have an insect on them. Neither will those that are growing vigorously, as the parasites seldom attack a healthy, vigorous plant.—Florida Agriculturist.

FERTILIZE LAWNS.

Regarding fertilizers for lawns, the Balfour, Guthrie & Co., of Los Angeles recently wrote Prof. Hilgard at Berkeley and he has sent the following reply:

In response to yours of the 6th regarding the use of Thomas phosphate on lawns, I state that when the soils are of a sandy nature the use of Thomas phosphate will answer very
well. If, however, it is more o
adobe character it will be more
sirable to use superphosphate
heavy soils it is necessary for
Thomas phosphate to be worke
by means of tools. Under these
ditions Thomas phosphate is f
used in Europe for the dressing
meadows, especially such as are
riodically flooded, and as meadow
well as lawns are apt to become
in the course of time, the Tho
phosphate is better intrinsically
the acid phosphate. It is, of co
understood that lawns are wa
frequently and rather abunda
since otherwise the phosphate po
might remain inert on the surface

The amount of phosphate po
per acre should be from four
dred to five hundred pounds of
finest grade; and of the super
phate of say 15 per cent soluble, a
three hundred pounds can be a
per acre.

It is said that by planting
beans at intervals among ros
shrubbery, insect pests will n
near so troublesome. Does any
know from experience?

Pansies are "high livers."
nias grow and bloom best in
soil. Nasturtiums bloom best in
soil; plant tall kinds for clim
and dwarf kinds for bedders. S
sandy soil for verbenas, and no
much moisture. Seeds germinat
two weeks or less time.

Deal with a reliable seedsman.
name on the packet may be all r
but the seeds may be left-
which have sunk into the han
irresponsible parties.

The marigold, Legion of Hon
a beautiful, showy annual,
adapted for winter blooming. S
germinate readily and plants
blooming in a few weeks from
ing.

Roses to be seen at their
should be examined in the
morning while the dew is yet
the blooms and before the hot
has caused them to lose color.
the same reason, roses intended
house decoration should be cut
in the day and care should be t
to cut specimens in the bud sta
partly open—as they keep best
are seen to the best advantage.

"He who would have bea
roses in his garden must have
tiful roses in his heart. He
love them well and always. To
he must woo, as Jacob wooed
ban's daughter, though drouth
frost consume. He must have
only the growing admiration, the
thusiasm and the passion, but
tenderness, the thoughtfulness,
reverence, the watchfulness of l

An imposing and tropical-loo
lawn feature is a circular bed wi
large bronze-leaved ricinus or c
bean for the center, surrounded
row of cannas and the whole bord
with coleus or foliage plants. So
thing like forty fine shades can
raised from a single, five-cent pa
of seeds, sown in a cigar box in e
spring and transplanted to the
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season. Begin with a few plants
easy culture. By the time one
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rieties of more difficult culture
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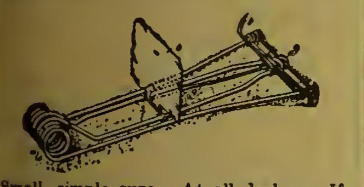

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Small Fruits and Vegetables

THIS MONTH.

"A ARDEN SASS" tastes good these days, so that the earlier care and work are now yielding their reward. Work done now may be appreciated later. Sow beans and cabbage for late crop, sweet corn, cress, cucumbers, okra, muskmelons, peas, parsnips. Plant egg plant, sweet potatoes, horseradish and rhubarb roots and strawberry plants. Keep soil well cutivated and hoed in order that the crops will stand the heat of the coming summer.

TO GROW MUSHROOMS.

A temperature ranging from 50 to 60 degrees is required for the growing of mushrooms. This is a plant which has no green leaves and, therefore, does not require sunlight, therefore an old cave or cellar or a shed in which the temperature will not drop below 4o degrees, and in which it will remain close to 55 degrees at all times, is the ideal place to make the mushroom beds. A framework of any convenient length and width, deep enough to contain about 12 inches of well picked compost is the required structure in which to build the bed. Fresh horse manure that is nearly free from straw or litter is generally used to grow mushrooms, and it should be gathered as rapidly as possible. The manure should be placed in a pile to induce fermentation, but should also be carefully turned and mixed once a day to prevent burning. For a week or ten days the heat in the pile will be intense, but it will gradually subside, and after this stage has passed the manure is ready to place in the beds. The manure is placed in the beds in layers and well pounded down with a mallet or block, making it as compact as possible until ten iinches deep. A thermometer should be placed in this compact mass of manure and the temperature closely watched until it has reached about 90 degrees, when the spawn should be planted.

The spawn is purchased from seedsmen in the form of dried bricks, which contain what corresponds to the seeds of the plant. These bricks are broken into pieces of half-inch to an inch square and inserted in holes in the manure about three inches deep and four or five inches apart each way. The surface should be well pressed down after planting.

A coat of good loose soil, two inches thick should be put on the bed about ten days after planting; this is made firm and a mulch of hay or straw piled on to assist in retaining moisture. Sometimes it becomes necessary to wet the beds, but the greatest success will come from keeping the atmosphere in the cellar or shed sufficiently moist to prevent the compost drying.

ONIONS.

It seems to me that here in this irrigated country transplanted onions pay the best profit. Most people object to transplanting because they say it costs too much. From figures I have kept I find that it costs about $30 to set out the plants on an acre, assuming that a man can set 5000 plants a day. That would be one every ten seconds in a ten-hour day and I should be constantly reminded that I had a back if I tried it. With a boy to drop the plants for him, an active man might do it but he would have no time to tell stories or look at the scenery. With all that I think the work of transplanting is less than thinning or weeding with the fingers. The real objection to transplanting is the difficulty of doing it all at once. It will not do to let it dawdle along. When ready to transplant put all hands at it and see that they work. Nothing has made such a deep impression upon the market garden as this process of growing the onion plants in a bed and removing them to the field after they have become strong and of size to make field culture feasible. By this plan our Western onion growers are able to put upon the market bulbs one year from the seed equal to the best imported onions and it has in a degree revolutionized this industry. The seed is sown in drills an inch and a half or two inches apart.—Exchange.

SACRAMENTO ALL RIGHT.

Sacramento seems to be in step with the swing of the entire State and is claiming a great future, and its present advancement seems to justify the claims of its warmest friends. A Cultivator representative now working in the immediate surroundings of Sacramento writes that the most hopeful feeling he has observed prevails about that section. He says the prospect that the government will dredge the river to permit of ocean going vessels coming up to the city will greatly stimulate the growth of the city. Besides this, the many large grain ranches aoout the city are being subdivided and are making homes for a vast number of small fruit and garden people. And being so situated that much of the traffic of the State passes through it and lines of travel radiating in all directions will largely increase its prestige.

May it meet the expectation of its warmest friends.

When the potato scab and blight germs once gain a foothold in the ground they can only be eradicated by rotation of crops and even then with difficulty. There seems to be no remedy for the disease once firmly rooted in the ground other than rotation. The root blight is evidenced by immense tops, for the disease attacks the tubers leaving no place to store nourishment, and hence the tops immediately take up the plant energy and grow to abnormal size. It is also indicated by a preponderance of small potatoes, too small to be of any value whatever. Sometimes it does not allow the potato shoots to even reach the surface of the ground but cuts them off, especially when the growth is slow and the shoots are small and weak. Practically the only remedy for this disease is in the choosing of seed, taking great care to avoid potatoes with scabs on them, those with rough brown spots and those with black spots. Roughness of the potato seems to indicate this trouble generally.—Field and Farm.

The fruitman or gardener who successfully combats the different diseases or pests always has the spraying materials on hand at all times and the spraying machinery in such order that it can be used on a moment's notice. Thorough preparation acounts for much of the success in the progressive fruitman's orchard or garden.

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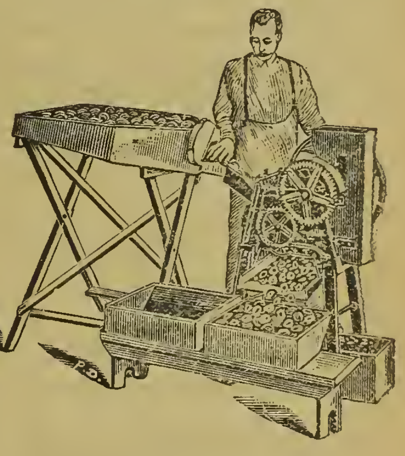

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No neck weight.
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Payable in Advance

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THE APRICOT CROP.

Reports from nearly all sections of the State indicate the most promising outlook for the output of apricots, though some sections report half of a full crop, but with fruit of exceptional size and quality. Prices for the green fruit will probably range from $12 to $20, and prediction for dried 'cots is about half that of last year or 10 to 12 cents. These are merely surface indications, as it is yet too early to give absolute figures, especially for cured product.

KEEP OUT THE SMELTERS.

The effort which is being made on the part of some commercial bodies in Los Angeles to secure the establishment of smelters between the city and the ocean should be discouraged if possible. We have before us a circular issued by the Haywards Business Mens' Association calling for a mass meeting to protest against the erection of a smelter at Baden in San Mateo county. That location is several miles away and across the bay of San Francisco. But from experience in other sections the well-wishers of Haywards do not feel it safe to permit the erection of this blight upon all things which have life, even if it be miles away. The circular says that by the operation of this smelter "many tons of sulphurous and arsenical vapors will be discharged into the air daily and, condensing, settle upon the country within a radius of a score of miles, withering and destroying all vegetation and causing more or less injury to animal life."

We think perhaps the "score of miles" may be somewhat overdrawn, although with the strong trade winds always prevailing it may be possible the injury might reach that far. We have heard it estimated that as low as one-half mile to a mile from these institutions is the limit of the destruction of all plant life. But even then it is plain that such an institution would be a blight upon a section which placed so much dependence upon and secures so much financial return from its asset of things beautiful.

California wishes establishments which tend to its commercial advancement, but that advancement, we believe, would be more rapid along other lines and abundantly compensate for the loss of such an institution, rather than to jeopardize producing interests.

A LIVE STOCK SHOW.

We have a communication from Dr. R. T. Whittlesey suggesting the holding of a live stock show in connection with the meeting of the National Live Stock Association which will be held in Los Angeles in January next. This is surely an excellent suggestion, though at first thought the claim may be made that Los Angeles being the center of an almost exclusive fruit producing section, the live stock interest may not be strong enough to secure a showing which will be equal to that of some of the more representative stock sections of the East.

Therein lies the merit of such a show, for we believe that the northern part of the State will join in such an effort and that the best of showing may be made from the southern end of the State as well in a way which will surprise even our own people. There are many excellent specimens of highbred live stock in this State, and we believe such a gathering together of the best of these in the southern metropolis will give an impetus to the industry and attract attention to its importance and advertise the live stock possibilities in a way which will be most beneficial.

UNIONISM RAMPANT.

Trade unionism seems to have reached the limit in Australia where its hold upon politics is such that it has prevented the introduction of a virus, or disease, for the rabbit which infests that section. The claim is openly put up that if successful, this invention or discovery of Pasteur would deprive many working people of their avocation. This industry of killing rabbits has become so extensive that a regular guild or organization exists amongst those engaged in it, and the cost to farmers of Australia to employ these men to rid their counties of the rabbits has been a great drain upon resources. Now the pressure has become so strong to retain the employment of these men that it is thought that the vastly cheaper method will be barred from introduction.

GATHERS IN THE BUGS.

George Compere, who has traveled over the world for several years in search of insects which will prey upon the injurious insects affecting the agricultural industries of this State under direction State Board of Horticulture, has just returned from across the Pacific, his last stop being Japan. He brought with him a number of parasites which are supposed to destroy the mealy bug and the purple scale. The mealy bug has proved one of our most difficult pests to contend with, and it is sincerely to be hoped that the "bug to eat the bug" will succeed.

It is announced that Mr. Compere will remain with the Horticultural Commission and continue his search for beneficial insects.

The planting of eucalyptus may be more or less of a fad in the interest which it is now manifesting in this State, but it is a good one. It is possible many will plant unwisely and upon land which will prove it to be unprofitable. We trust, however, on the whole, it will prove exceptionally profitable to this State.

California poultrymen are continually asking themselves the question: "Why are we shipping to this market products of Middle Western farms over 2000 miles away?" San Francisco and Los Angeles pass scarcely a day without the receipt of a car of either poultry or eggs. We do not know any satisfactory answer to the question.

"DIRTIES."

We recently noted in quotations of th egg market of a city in this State where fresl ranch eggs were quoted at 21½ cents, the nex line below the fresh ranch was dittoed, immediately after which was "dirties 17½ cents." W don't think any moral is necessary on such a quotation, other than to call attention to the fact tha eggs are not the only "dirties" that are sometimes placed upon the market. Several packin houses of California have an embarrassment along the same line in the smutty frui which is brought in. Potatoes, celery, all kind of fruit; in fact, every product of this State ar against the same proposition.

Let us market less "dirties."

OUR INLAND WATER WAYS.

When our inland water ways shall be improved, as appears to be a possibility in th near future, we will solve an important proble in our transportation problem, the problem cheaper rates for our products.

Members of Congress and others in hig authority are beginning to see that impro means of transportation are badly needed. Th President, sometime ago, urged upon his count men the importance of conserving and improv our inland waterways, and Senator Knox, in recent speech, told his hearers that the key our future prosperity is in the development of river, lake and canal facilities. Along the s line is a bill recently introduced in Congress Representative Currier, of New Hampshire provide for the creation of a National Highw Commission and for the construction, impro ment and maintenance of public highways. bill proposes the expenditure within the next fi years of the sum of $50,000,000 at the rate $10,000,000 a year apportioned to the States the ratio of $500,000 to each State, to be exp ed at the rate of not less than $100,000 a yea

Fifty years ago our inland rivers were t great avenues of transportation and they aff ed ample facilities, for those days, for our land country. The advent of the railways the rivers "out of commissiou," so to speak now the need of a natural competitive system keenly felt and the probability is, that with ten years, the now discarded waterways teem with commercial importance and solve a great degree the question of cheaper tr portation for our farm products.

The 60th congress will soon close, and to d with the record that it will reach the billion d mark. Its appropriations, it is estimated, aggregate $1,026,000,000. It is estimated that revenue will bring to the treasury during same period covered by the appropriations an gregate of between $850,000,000 and $900,000,0

The total of $11,400,000, not counting the manent appropriation, is the total of the cultural bill passed by the House of Repre tatives.

Shop Talk

CANDY BOOK.—Don't forget the recent by the **Cultivator** of the book recipes for ho made candy and ice cream. You will see ou on another page. Every girl and housewife kn how to make candy, at least a few kinds, but book is the latest thing out and contains 300 mulas. How handy it will be to refer to wh children have their party, and to pick out thing new as a happy surprise for them.

Get your neighbor to subscribe through you send your own renewal for a year in advance, ask for the "Candy Book." Don't forget the s scription must be for an entire year in adva and that the money must come with the order

This "money in advance" proposition will be hardship, and we know it to be easier and m satisfactory than any other method for every concerned. Even in the past most of our rea expected to pay in advance the same as for d papers and though we don't want to be arbit about the matter we want all to "get the ha as rapidly as possible. Our Uncle Sam is p ticularly demanding this, so we hope our rea will help us to live up to the new postal rul Such offers as the above should be of assista

gricultural Notes of the Pacific Coast

orthern California

odland vines are loaded with s.

icot crop is exceptionally heavy odland.

oma county has the largest y in the world.

aville cherries in New York have bringing $2.00 and $3.00 per box.

icots along the American river showing exceptionally heavy

neda Sugar Company has about acres of beets planted near and.

hest price yet offered for wool ba and Sutter counties has been ents.

,000-gallon steel tank is being d for water pressure on the farm at Davis.

arge ranch near Marysville has d a large washing plant and is ng its own wool.

sa county apricot trees are with fine fruit for which quota- ices are not yet made.

cuttings shipped from France State University farm were bad- d and many failed to start.

tendency of grape prices is ownward, and the grower he contract seems to be favored.

sa county prune growers are for a fair crop of prunes this for which a long price will pre-

State University farm at Davis roved itself to be a "wizard" of breeding by producing a white

y valley, near Vacaville, is mak- avy plantings of alfalfa. Over res have been planted during the ar.

Producers' Fruit Company is g a new packing house at Pla- and contracting with orchard- r fruit.

Sacramento River Farms Com- has filed articles of incorpora- The purpose is to reclaim lands the city of Marysville.

hundred hop and wine grape s have formed an organization oma county for the purpose of ing the grape and hop indus-

Farmers' and Producers' Im- ent Club at Sebastopol is dis- benefits which producers may from a free market in San sco.

riments of W. W. Mackie, ex- the Bureau of Soils, seem to that the use of gypsum on al- a pronounced success in the colony.

w fruit packing establishment gin operations at Vacaville this It is a branch of the Ameri- it Company, located at Roches w York.

cer county miner has been 500 and imprisoned five days ating an injunction of the rdering him not to permit to escape into the rivers.

n hundred slips of pineapples were sent from Florida to a in Sutter county were con- to the flames by Deputy lture Commissioner Carnes, be- of their being infested with

Central California

Orchard laborers are scarce at Turlock.

Tres Pinos will produce about 7000 tons of hay.

Lindsay shipped nearly 1000 cars of oranges to date.

Turlock is discussing an unfermented grape juice factory.

Butter and cheese of this State sold last year for $13,500,000.

A Santa Cruz farmer was recently gored to death by a pet bull.

The orange packing houses of Lindsay are working on Valencias.

Watsonville has a special berry train into San Francisco every day.

Hollister hay balers are already at work with the baling, price being $1.60 per ton.

The Farmland colony near Tulare will soon receive a supply of irrigation water.

Packers are rapidly buying up the coming apple crop of the Watsonville orchardists.

The cool weather of the spring has not been favorable to developing the best growth of grapes.

Much of the barley crop in the San Joaquin valley is going to give an exceptionally good crop.

The next meeting of the Tulare Grange is to discuss the question of co-operative marketing.

The grape crop in the Lodi district is in good condition and promises an immense output.

Stockton potatoes were seriously injured by frost on the morning of May 16th. Some were killed.

A fiend at Porterville entered the fine orange groves and completely girdled 30 fine, large orange trees.

Late frosts this spring are found to have done much damage to vineyards over the San Joaquin Valley.

Cherry growers near Stockton are refusing to contract their crop, preferring to take the chances of the market.

An Artesian well has been sunk near Summit Lake to a depth of 1100 feet, and is now giving a fine flow of water.

Eastern capitalists are attracted by the possibilities of eucalyptus culture, and are looking up land in the San Joaquin Valley.

The State Grange is contemplating the gathering of the crop statistics which shall be for the use of all grangers of this State.

Cherries are going forward at a good rate from San Jose. The black Tartarians are yielding a fairly good crop, while Royal Annes will give a light yield.

Grain is coming in so finely in the section about Hollister that the crop of hay will be much lighter than anticipated. Many ranchers will allow to stand and produce grain.

Tulare county had one of the most disastrous grass fires, when a strip of country nearly ten miles wide and 36 miles long was burned over. Many stacks of hay and barns were burned.

Arthur Briggs, president of the California State Board of Trade, has gone to Oklahoma, the legislature of which is endeavoring to enact a law prohibiting the shipping in of sulphured fruit.

Southern California

The grain harvest in Imperial valley began nearly two weeks ago.

Oxnard sugar factory will handle the output of about 15,000 acres this year.

About 100 cars of oranges are going forward daily from all points in the State.

Cattle fattened in the Imperial valley are now largely supplying Los Angeles shops.

Apricots are growing finely and indicate now the biggest crop produced in many years.

It is claimed that Imperial valley can market 130,000 hogs within the next six months.

The cantaloupe crop of Imperial valley is estimated 1500 carloads from about 5000 acres.

Southern California will receive approximately $4,000,000 from sugar beets this season.

The promise is for one of the biggest walnut crops ever given to the southern end of the State.

Garden Grove is sending out a large quantity of new potatoes, which is netting the growers large sums.

Five hundred to 750 school boys of Los Angeles are going to Imperial to assist in the cantaloupe harvest.

Much labor has been rushed into the Coachella and Imperial valleys and even yet the call is for more.

Navels are practically all shipped and Valencias are in full swing at all Southern California shipping points.

Over 100 date trees are blossoming at the Mecca Experimental Station. Important results are expected from this year's growth.

The Los Angeles office of the Weather Forecasting Service is to detail a man after July 1st to study Salton Sea evaporation.

With melons going out of the Imperial valley before the middle of the month of May, it claims it is the earliest melon shipper of the world.

The Southern California Sugar Company has just organized at Santa Ana and elected its Board of Directors. The company is capitalized at $600,000.

Many sheep are being marketed because of shortage of pasture, while sheep raisers in the Imperial valley are holding for better prices after the feeding season is on.

While the melon crop of Imperial valley will be much smaller than at first anticipated, it will still be an immense crop. The first melons commanded $1.00 each in Chicago.

Dairymen of Artesia are much dissatisfied with prices secured, and are organizing a Southern California Dairy Association with capital stock of $100,000, and announce that they will fight the milk trust.

The hay crop of the mesa east of Riverside promises to be exceptionally fine this year. The Riverside Press says that hay which five weeks ago was only 8 inches high became rank and tall owing to the late rains before time of cutting.

A new corporation has been organized at San Fernando and will build a house for storing and packing of lemons. The incorporators are: C. C. Reynolds, J. A. Reid, R. H. Wilkerson, H. E. Huff, H. E. Bartlett, C. D. Hubbard and T. J. Walker.

The Coast

June 4th will be annual berry celebration at Milton, Oregon.

Farmers of Nez Perce, Idaho, have contracted for 450,000 grain sacks.

The Dalles, following the example of Salem, will have a cherry show this year.

Fruit will be much lighter crop in Utah owing to prevalence of late frosts.

A steady 24-hour rain gladdened the hearts of farmers of Oakesdale, Washington.

Large tracts of land in Washington are being subdivided into smaller ranches.

Cattle men of Eastern Oregon have been banded together in lawless acts of cutting wire fences.

A steady decline in wool is noted in the Seattle wool market. 8 to 10 cents is now the general quotation.

Midsummer meeting of the State Horticultural Society will be held at Dalles, Oregon, June 20th and July 2d.

Washington State College at Pullman has arranged for two series of farmers' institutes in Western Washington.

The heavy downpour of rain near Goldendale, Washington, about the middle of the month insured an immense crop of wheat.

Sugar beets are now nicely up in many of the Colorado beet fields and local report has it that "the rows may already be followed."

The State University Experiment Station of Idaho is going to have a demonstration train to visit the various farming sections.

The Spokesman Review of Spokane is conducting a strong campaign to induce every farmer in the State to secure a name for his ranch.

The arid farmer of Utah has been greatly encouraged by the later showers, which have turned his apparent failure into a complete success.

Grain farmers at Wenatchee, Washington, have organized the Quincy Farmers' Elevator Company and will commence at once the construction of an elevator.

Farmers in Washington are rebelling at the fact that British Columbia is importing Australian butter and feel that that trade should be kept on the Pacific Coast.

At the Interstate Commerce Commission hearing at Washington it was testified that the Northern Pacific Railway nets $2.10 on each ton of wheat handled.

The drouth of April seriously injured the beet crop of Utah, which was later saved by showers which germinated the seed and a fair output is now promised.

The great wheat producing section of Eastern Oregon has been visited by experts from the Oregon Agricultural Experiment Station, who hope to suggest plans for diversified farming.

At a meeting of the wholesale produce dealers of Portland, Oregon, steps were taken to give more considerate treatment to shippers of eggs to that market. It now appears that the commission method of handling eggs is such that producers and country dealers refuse to ship there so far as possible.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

The Jubilee Incubator

Has proven a winner. Ask the colonists who are using them.
Coulson's Special Chick Food and Egg Food
always in stock.

Poultry and Stock Foods. Sole agents for International Stock and Poultry Foods, Kow Kure, Coulson's Egg Food, Darling's Beef Scraps, Chamberlain's Chick Food.

Seeds, Plants and Bulbs
Write for our 1908 Catalogue

GERMAIN SEED COMPANY

326-330 S. Main St. Los Angeles, Cal.

Little Chicks should be fed on **Excelsior Chick Food**

prepared from clean, sound grains, seeds, beef scraps and charcoal in proportions to make a well balanced ration and produce strong, healthy chicks and keep them continually growing. For sale by all dealers and grocers. Take no other.

Excelsior Cereal Milling Company

242 Central Ave., Los Angeles

Mammoth Bronze Turkeys---S. C. White Leghorns

From our large, vigorous White Leghorns, the largest eggs produced by any Leghorn breeder in the West. $1.50 for 15, $7.00 for 100 and $60 for 1000.

To make room for young stock we must dispose of a large number of this year's breeding birds. They are two years old and the pick of our flock and must be sold at once. Write us your needs. The price is right.

STUHR-WILLIAMSON POULTRY COMPANY

378 Bandini Ave. Home Phone 1490 Riverside, Cal.

Black Langshans Well, we won again at Los Angeles. Two firsts, one second, one third on five birds shown. Best stock ever in show room in California. Eggs, $2.00 to $5.00 per 13, $10.00 to $20.00 per 100.

White Rocks Large and vigorous. Improve your stock with a setting or get a fine flock with an incubator lot. Eggs, $1.50 to $2.50 per 13, $8.00 to $12.00 per 100.

S. C. White Leghorns Order eggs now, we have plenty of them. Have had all winter, great big white ones. Eggs, $1.00 to $2.00 per 13, $6.00 to $10.00 per 100.

Phone East 915 **Foster's Poultry Yards, 128 W. Avenue 41, Los Angeles**

Trap-Nested White Wyandottes

That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen, contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribbons, all at Los Angeles County Poultry Association Show, December 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah. Hens and Pullets, $15 and $30 per dozen.

MISSION VIEW POULTRY RANCH, MRS. C. D. HUBBARD, SAN FERNANDO, CAL.

Profit in the Poultry Yar

We solicit short articles of a practical nature from the fancier and utl
breeder, giving their experience with poultry. All inquiries pertaining to f
management, disease and its prevention will be answered through these colun

POULTRY AT PETALUMA.

THE article "Poultry in Petaluma," by Mr. Henry Langeuschuodt, former poultryman of Montana Experiment Station, will be read with much interest by our readers. We hope that this article will stimulate the industry in other sections until Petaluma will have a rival.

Petaluma is in Sonoma county, which has an association called the Sonoma County Co-operative Poultry Association, the object of which is to protect its members from the unscrupulous commission men. They have been compelled to establish their own market in San Francisco. In explaining the reason for this the manager, Mr. Wm. F. Schultz said:

"We learned that the commission men engaged in handling our product were giving the retail trade to understand that the existing high quotations for eggs was due to our establishing of our own packing-houses in Santa Rosa and Petaluma. This is false and we decided to enter the San Francisco market and establish our own selling price, regardless of the manipulation practiced on the San Francisco Dairy Exchange.

"It will be recalled that last January the Exchange 'broke' the market, and afterward accused the retail trade of maintaining an unnecessarily high figure. It now happens that the same exchange is making quotations utterly at variance with the season's trade conditions. This has proved a hardship for the retail distributors, who have been forced to advance their prices on the consumers, while at the same time the blame has been placed on the producers. The latter have associated themselves for no other purpose than to protect themselves against the power of the Exchange.

"We are absolutely opposed to the jockeying which is practiced by the Dairy Exchange. We desire that the retail trade should understand that all we ask is a fair price for our product, and that we shall not submit to the domination of a false quotation made by a set of dealers, and we propose to establish a quotation which will be based fairly on the conditions of supply and demand."

Mr. Langeuschuodt's letter follows:

A poultryman visiting Petaluma, whether he is from another State or within this, cannot help finding many interesting things there. Indications of the nature and size of the prevailing industry will engage his attention almost from the time he steps from the train. He will notice the familiar egg case on express wagons and piled up on sidewalks of commission houses as he goes to the hotel.

Magnitude.

There were shipped from Petaluma during the year 1907 almost 4,500,000 dozen eggs and over 59,000 dozen poultry. Other points in same county, (Sonoma) shipped 1,750,000 dozen eggs, bringing the total of the county over six million dozen. Make comparison with these figures of product in whole State 14,000,000 dozen, it is said to be, we believe.

What has attracted this industry
here, is a question the writer
not wish to take up, but
rather confine these remarks t
ditions as are apparent to a
A favorable climate for poultry
here, free from extremes of
cold as in many Eastern and
ern localities. There are r
winds, but where don't you fin
at seasons. Most parts of the
good, yet there are localitie
where you will find 'dobe soil.
is good and plentiful. Ever
you see the windmill and wate
Good transportation facilitie
markets have no doubt been
a factor in building up and m
ing this industry here.
ship by rail or boat.

The Leghorn.

The White Leghorn is the
ing breed. It is rarely that
any other breed or variet
fancy bird has no attraction
general poultryman here. H
not pay you ten cents a doze
for hatching eggs from such
let alone ten cents a piece f
There are a few fanciers,
are the exception.

The Houses.

While there are many s
houses you do not find th
uous laying house here.
vailing type of house has
closed house 7x10 feet (sc
larger), 4-foot sides and ga
In such a house 75 fowls ar
ly kept. Then in larger h
to 300 and sometimes 500 ar
one house. This house adm
tle ventilation, and many
ing and changing to houses
more fresh air. The colony
used, some using enclos
others free range. When y
used the ground is worked a
ed. Where it becomes ha
swept from time to time.

Feeding.

You will find many m
feeding. Wheat is fed mo
many feed a wet mash;
mash in hoppers. Those g
results emphasize the impo
plenty of green and meat f

You seldom see a hen w
of chicks. You might say
ing is done with incubato
are so many large hatch
many do not hatch, but
chicks, which in most
more satisfactory, as
hatched chicks are secur
do not even do that, but
their flock by buying pu
time to time. You will fi
brooded in larger number
than is customary in other
You see 600 to 800 chicks h
at times. Different heatin
ments are in use. To go i
as to various methods, e
take up much space.

A Big Proposition.

They are realizing here
luma that the raising o
taken all the way thr
hatching eggs to feeding
for breeding stock, is a
deeper proposition than it
ly supposed to be. They
the first steps toward the
With a professional hatche

CHICKS

Rocks, Reds, Wyandottes, Orpingtons, Black Minorcas, now $12.50 per 100. Brown Leghorns $11 per 100. White Leghorns $9 per 100. Thousands hatching all the time.

PIONEER HATCHERY Co.
711 South Main Street, Los Angeles, California

Imported
Aylesbury Ducks

Winners at Crystal Palace and leading shows in England.
Also at the State Fair, San Jose and Oakland, 1906.
Also State Fair and San Jose, 1907.
Stock for sale and Eggs in season.

Vincent G. Huntley
Petaluma, California
Also Breeder of Buff and Black Orpingtons and Barred Plymouth Rocks.

East Side Poultry Yards
Barred Rock and Buff Orphington Eggs
Chicks hatched to order. We have taken the utmost care in procuring pure stock, also selected by the "Hogan System". Visitors and correspondence solicited.
E. J. Look No. 16 Hancock St. E. San Jose, Cal.

WINSLOWS REDS EXCEL Single Comb-Rose Comb RHODE ISLAND REDS Red Bantams Monrovia Cal RED FEATHER POULTRY YARDS

WINSLOW'S REDS The bird for the Farmer and Fancier.
Write for 1908 Mating list.
Red Feather Poultry Yards
Dr. C. E. Winslow, Monrovia, Cal. Send stamp for Red Standard.

EAST SAN GABRIEL EGG RANCH
S. C. White Leghorn and Barred Rock Eggs for hatching, $1 per 13, $5 per 100. Won 12 ribbons at last Breeders Show on White Leghorns. Prize winners, $2 per 13. All hens in our breeding pens are selected, 2-years-old, and are great egg producers.
Swanson & Johnson, San Gabriel, Cal.
San Gabriel Car to Masonic Home then 2 blocks South

GEORGE W. POPPELWELL
Successor to C. H. Robbins
Breeder of White Leghorns, Black Minorcas and Barred Plymouth Rocks. Eggs for hatching, $1 to $5 per setting. Single birds, trios and breeding pens a specialty
Yards at Ranch (10) Phone Main 1583
943 W. Fremont St., W. Stockton, Cal.

Baldwin's White Leghorns
First prizes San Jose '06, and State Fair '07
Three 1sts and special, San Jose, '07.
hree 1sts, three 2nds and $50 Cup best display Petaluma '07.
Send for free '08 Catalogue and price list.
Frank E. Baldwin
6 Washington Ave. - San Jose, Cal.

HOMERS
Prolific Breeders
Winner of 1st pen at Breeders' Show
Satisfaction Guaranteed
C. E. Bunker
San Jacinto, Cal.

Indian Runner Ducks
Black Langshans
Stock at less than half price to make room for youngsters. Runners at 75c and $1 each. Langshans at $1 and $1.50 each.
LYDE J. MOSS Corona, Cal.

COLT TRADE MARK. Carbide Feed Acetylene Generators
Approved by the National Board of Fire Underwriters. Adopted by the United States Government for Light House Establishments and other engineering purposes. Guaranteed by the largest Acetylene Generator Manufacturers in the world. Main Office, New York City. Write for 44-page catalogue containing full particulars. Address
Fowler Shankland
PACIFIC COAST DISTRIBUTOR
4 Severance Building, Los Angeles, California

Irrigating canals in Butte county are inning full of water. The total rainll at Marysville is 6.47.

secure better chicks than the average poultryman is able to hatch even with the best machines. They are finding this out here and many have discontinued using their machines. The brooding of chicks can be made another branch, and is. You will find some that do nothing but raise the chicks to three or four months old, finding ready sale for them, both pullets and cockerels.

Sometimes crude methods are found to be used. Mostly they are ready to adopt methods that will lessen the labor and give greater returns. You will find much that is interesting, especially if you happen to visit here in hatching season.

* * *

AROUND THE YARDS.

Fat hens are not good layers.

* * *

Protein foods are egg-producing foods.

* * *

From 40 to 50 ducks our allowed in one pen.

* * *

Buttermilk is good for poultry and they seldom tire of it.

* * *

Ducklings are marketed at 5 pounds weight, which they should attain at ten weeks.

* * *

Young ducks should be fed powdered charcoal in their food about once a week.

* * *

Vegetables are better fed raw than cooked to laying stock, as they are not so fattening.

* * *

Watch the male birds, don't allow them to get thin and run down or your eggs will not be fertile.

* * *

Filth and lice are the young turkeys, worst foes. Keep the coop clean and the little fellows free from lice.

* * *

Whitewash the houses; it is good vermin destroyer; makes the houses look nice and fresh and is cheap.

* * *

Lettuce, rape, collards, turnips or, in fact, any kind of green stuff supplied to the laying hens now, while grass and most natural green stuff is scarce, means more fertile eggs and more in general. Give the fowls the run of the orchard, if possible. They will thus not only reduce the number of insects that will prey on the trees and fruit in the summer and spring, but will help keep the feed bill lower; also keep the fowls more vigorous and busy.

* * *

Raising Geese.

I have never seen anything in the Cultivator about raising geese, and as I am a beginner I would like to know what to feed and how to care for little goslings.—A Subscriber, San Fernando.

Goslings, like chicks, should not be fed until 24 to 36 hours. Then they should be fed four times daily. Feed, by measure, one part bran, one part rolled oats, cornmeal and shorts one part; four beef scrap, one teaspoonful to a quart of food. Green food, grit and water must be kept always before them. After ten days to two weeks old add one tablespoonful fine beef scrap, and give cornmeal and chopped vegetables mixed with skim milk or water. Don't give water to swim in till full feathered.

* * *

Exercise.

I have a large Buff Wyandotte hen setting, whose time will be up day after tomorrow; she seemed perfectly well and happy until last evening when I let her off at the regular

Use
Coulson's
Special Dry
Chick Food
and Insure Success

Two-Weeks-Old Chicks fed on Coulson's Special Dry Chick Food

For Sale By
Coulson Poultry and Stock Food Company
Petaluma, Cal.
Send for our Free Book, "Poultry Feeding for Profit"
Germain Seed Co., Los Angeles
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West Coast Chick Feed

Don't be induced to take others "just as good." They cost less to make and dealers make more profit on them. You can't afford to feed the little ones anything but pure, wholesome feed, properly balanced to keep them healthy and make them grow. "West Coast" is just this and all pure feed to be fed dry; no filler, no waste, hence really the cheapest. The biggest seller because the best made. For sale by many dealers; if not by yours send direct to us.

WEST COAST MILL
818 San Fernando St. (Through to Alameda) Los Angeles, Cal.

White Wyandottes Exclusively
Our strain have won in strong competition on the Pacific Coast
Day old Chicks, Incubator lots our Specialty, $15 per 100
Booking must be made in advance. Stock and Eggs For Sale. Send for our new Catalogue
GEORGE W GRACE & SON. RURAL 21 CAPITOL AVE. BOX 98, SAN JOSE, CAL.

BLOEM & VANDERGOOT
Black and White Poultry Yards
Successors to Ed. M. Burnell
Columbian Wyandottes exclusively. A few choice trios for sale. Eggs per setting $3.00 and $5.00. Eggs per 100, $15 and $20. Stock a matter of correspondence. LOCK BOX 51, GLENDORA, CAL.

WHITE AND BUFF WYANDOTTES
And Golden Sebright Bantams, prize winners
Stock and Eggs in season
M. E. Dillingham Box 67, San Gabriel, Cal.

White Wyandottes Exclusively
Good, White, Typical Birds. Stock and Eggs For Sale.
W. A. SEYMOUR
470 No. Beaudry Ave. Los Angeles Cal

time to eat and drink. When I opened her box instead of coming off as usual, I had to take her off and when I put her on the ground she couldn't stand up. Her legs seemed too weak to hold her up and she staggered around like she was drunk. When she first came off she could hardly stand up, but the longer she stayed off the stronger her legs seemed to grow. She ate and drank as usual, clucked and scolded and fluttered her wings; indeed, seemed to act quite natural except that she had such poor use of her legs. She went back onto her nest but wabbled about so she could hardly get into the door of the box.—Gladys A. Veall. Dehesa.

The trouble with your hen might be caused by one of or several things. First, she may have set too close and not had enough exercise. Then we have known them to act this way after a good dusting with a lice powder. When the powder is real strong it seems to make them drunk and unable to stand. We have also seen them so weak from lice that they could not stand. Perhaps if you will watch you can tell what ails her; we think it some local trouble more than a disease.

* * *

Possibly Head Lice.

My chicks are about three weeks old and doing very nicely and grow, and are apparently healthy, and always hungry. But every now and then one gets blind in one eye and droops and sits around three or four days and then dies. I feed them dry bread crust crumbs with a little curdled milk, and sometimes a little of bran and cornmeal and some small wheat.—A Subscriber.

Your chicks act as though troubled with head lice. We would anoint the head and eye well at night with carbolated vaseline.

FLEAS, LICE, TICKS, MITES.

Every living thing has its own particular vermin, both internal and external, and possibly poultry, of all creatures, have the greatest number and variety. It is claimed by some writers that a few vermin on ordinary healthy fowls in no way effect their health, it being when such multiply exceedingly that they do the harm; and when such time arrives it most frequently happens the host, if a chicken, has become so emaciated from their effects that the application of remedial measures but hasten death, again showing that parasitic troubles are just like diseases—prevention, in every instance, is better than cure, i.e., clean fowls can be easily kept clean, while the internal and external parasites, when but few, can be easily exterminated.

Some scientists tell us that external vermin on domesticated fowls reach upwards of a score of varieties; others about half that number. Some make two groups of them, lice and mites; the definition of others is lice, mites, ticks and fleas.

All lice are what is known as pennivorous, that is, livng on the feathers and outer scales of the skin, but not puncturing the integument in search of their natural food; the damage they do is, therefore, not nearly so severe as is the case with the blood suckers.

Some of the parasites—all lice and some mites—live permanently on their hosts, while others—fleas, some mites, and ticks—go to and fro. Some live entirely upon the skin, dee amongst and at the root of the feath- ers; some live like ticks, with thei heads against the skin, and their bod- ies erect; while another sort live be- tween the barbs of the feathers an all are encouraged to live by dirt The poultry flea is abundant in dirt fowl runs particularly.

San Luis Obispo Polytechnic School, the only School in California where Poultry Culture is taught.

A NEW ENGINE.

A new power just introduced California has been brought in by Cowham-Smith Company, 24 H. Hellman Building, Los Angeles. T engine is one of the lower price gines, but with it all is exceptio effective and a smooth running chine.

Drop a word of hope and cheer,
Set the echoees ringing
With your notes of love and joy
As you go a-singing.
—Brininsto

CHICKS

Rocks, Reds, Wyandottes, Orpingtons, Black Minorcas, now $12.50 per 100. Brown Leghorns, $11 per 100. White Leghorns $9 per 100. Thousands hatching all the time.

PIONEER HATCHERY CO.
711 South Main Street, Los Angeles, California

One Acre or More $350 to $500 Per Acre
One Quarter Cash Balance Long Time

Poultry Raising on the Cudahy Ranch

Poultry raising on the Cudahy Ranch is a demonstrated success. The soil is ideal—light and free from "hardpan"—ensuring healthy, well matured birds—and a maximum egg production. Feed is cheap—and most of it can be raised on the ranch. Markets for eggs and poultry are but twenty minutes away—on the Whittier Electric Line, the Southern Pacific and Salt Lake Railroads.

Cudahy Ranch Lands range from $350 to $500 per acre; terms, 1-4 cash, balance long time.

Free water in abundance—deeded with the property.

You can buy one acre or as much as you want—every bit of the great 2800-acre Cudahy Ranch is superb poultry land.

Mr. W. W. Howard, one of the foremost White Leghorn authorities in America, thinks so highly of the Cudahy Ranch for Poultry Farming that he has established his model farm there.

No matter whether you are expert or novice, you'll do well to follow Mr. Howard, a man who has made a splendid success of poultry raising.

Call or write for facts, or, better still, go down to the ranch and study the proposition at first hand. Whittier cars leave on the even hour from the P. E. Building at 6th & Main streets, Los Angeles.

Ground Floor P. E. Building
Sixth and Main Sts.
Los Angeles, California

Cudahy Ranch

JAMES R. H. WAGNER
Manager
Home F5393; Main 8840

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Ha double gears, removable bearings n center lift, which double the life of h mill. They will last longer, pump a water and give better satisfaction h any other WIND MILL.

is is an up-to-date Sub-structure, and Wind Mill outfit complete; antial, economical and attractive. uild all kinds Write us or our al agents for full information and , description &c., before purchas-

he STOVER MFG. CO.
EPORT - ILLINOIS
30 California Avenue
CO., LOS ANGELES and SAN FRANCISCO
General Agents for California

ater Pipe Cheap

CAR LOADS NOW BEING UNLOADED

,000 feet of this shipment is sec- and pipe, practically as good as nd is now on sale at a big dis- by the Adams Pipe Works, 2025 treet. Sizes and prices: ¼ inch ts per foot; 3-8 inch, 2 cents per ½ inch, 2½ cents per foot; ¾ ½ cents per foot; 1 inch, 4¾ per foot; 1¼ inch, 6 cents per ½ inch, 7 cents per foot; 2 inch, nts per foot; 2½ inch, 15 cents ot; 3 inch, 18 cents per foot; 3½ 0 cents per foot; 4 inch, 32 cents ot.

well casing prices and sizes: 2 cents per foot; 2½ inch, 9 cents ot; 3 inch, 13½ cents per foot; ch, 15 cents per foot; 3½ inch, ts per foot; 4 inch, 18 cents per All pipe is carefully inspected, oupling and new thread are put ry piece, every joint is guaran- be first-class, serviceable pipe. ipe is sold in any amount; small are given the same attention ge ones. Mail orders promptly To reach the Adams Pipe take car marked Pacific Boule- starting east on 7th St. from vay. All lines will transfer to th St. new line. Ask conductor you off at Bay St., and go east ock. Phones, A1917, Broadway os Angeles, Cal.

Roeding, Fresno, Cal., breeder of
ughbred Holstein Bulls and Heifers
ughbred Berkshire Boars and Sows

IT'S PENNY WISE

y to set out a good tree, cost a money, and then let the sun e bark or the rabbits gnaw it, or $1 an acre you can get Yucca Protectors that are practically uctible. Write for free sample wrap. Yucca Manufacturing y, 1380 Willow street, Los An-

General Agriculture

FOR ALASKA-YUKON.

J. A. Filcher, secretary of the State Agricultural Society, and also representative of the governor for the Alaska-Youkon Exposition, which opens in Seattle next spring, is holding out a fascinating offer to counties and other prospective exhibitors which ought to result in an unusually fine showing at the State Fair this fall and the assembling of a lot of good exhibtion material for Seattle. It is really an offer to the different communities and manufacturers to participate in two expositions at less than the usual cost of one. He says to the counties and others who want to be represented as Seattle they may get their exhibits ready and send them to the State Fair. Then at the close of the Fair, he will take charge of them, so far as they are suitable, and pack them and store them and finally ship them to Seattle and install them neatly in the California building. In other words, the proposition implies briefly to get California's exhibit for Seattle together this summer, so far as practical, and assemble it and show it to our own people and our visitors before it goes north. All goods intended for Seattle have to be assembled in any event at some central point in California before going forward in carload lots, and this plan affords a rare opportunity to make double use of them and draw double prizes on them without additional expense to the exhibitor.

A LIVE STOCK SHOW.

Why not have a live stock show in Los Angeles next January?

The Live Stock and Dairy Journal edited by Dr. Charles Blemer, ex-State Veterinarian, recently contained an editorial advocating the holding of a stock snow during the convention of the National Live Stock Association in January 1909. This assembly will bring together in Los Angeles the most prominent breeders from all parts of the United States and Canada.

This convention has always met in the East—Denver, St. Louis, Chicago and such places—and a stock show has nearly always been a feature.

If any start has been made in this direction as yet, I have not heard of it except the recommendation by the above paper published in the northern part of the State.

It farther stated that it had assurance from a number of breeders in the San Joaquin and Sacramento valleys, that they would gladly make exhibits.

Now, an enterprise like this will take organization and work which must be done in this part of the State. It must have the backing and endorsement of the Chamber of Commerce and the Mercnants' and Manufacturers' Association.

Agricultural Park belongs to the city and it is perfectly adapted for such a show without any extra expense in fitting it up. The thing to do is for some one like the Cultivator to call a meeting of all interested parties to meet in the hall at the Chamber of Commerce some time in the near future, organize and set the ball rolling. There is no time to be lost as such things always drag.

The Imperial valley held a stock show a few months ago and it was such a success that it is to be a yearly event.

That country is filling up with the best stock procurable, and they could be depended upon for a good exhibit.

Now, let's hear from all interested parties what they think about it and any suggestions that may be made, should be sent in.

Let us get together for an exhibition of high bred stock.—R. T. Whittlesey, V. S., Los Angeles.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

FRUIT AND PURE FOOD LAW.

Continued from page 619.

partment, and that producers and distributors from the knowledge thus gained, could act in future with intelligence. It is a disappointment that no information has been given out in reference to these examinations.

Another effort was made early in the present year to obtain a modification of, or amendment to, Decision 76, in order that fruit drying, preparing it for market and the distribution might be pursued with safety on a practical basis. This renewed effort was made necessary because producers were unable to guarantee that the product cured by them would come within the limit prescribed in Decision 76, and buyers were unwilling to stand in the breach between producers and distributing merchants. The burden of responsibility rested on producers and they did not feel able to bear it. They claimed that fruit of the color and quality required for consumption could not be produced in this State, which did not show on chemical examination, if the test was made while in the raw state, an excess of sulphur dioxide, over 35-1000 of one per cent. The unit fixed by Decision 76 was, in their opinion and in the opinion of distributors, prohibitive.

The Department of Agriculture appreciating the situation as it was presented to Secretary Wilson, issued a new decision on February 28th, this year, known as "Food Inspection Decision 89" as an amendment to Decision 76, the full text of which may be interesting:

"The question of the addition to tood of minute quantities of benzoate of soda and of sulphur dioxide, will be certified immediately by the Secretary of Agriculture to the Referee Board of consulting scientific experts.

"Pending determination by the Referee Board of the wholesomeness or unwholesomeness of these substances, their use will be allowed under the following restrictions:

"Benzoate of soda, in quantities not exceeding one-tenth of one per cent, may be added to those foods in which generally heretofore it has been so used. The addition of benzoate of soda shall be plainly stated upon the label of each package of such food.

"No objection will be made to foods which contain the ordinary quantities of sulphur dioxide if the fact that such foods have been so prepared is plainly stated upon the label of each package.

"An abnormal quantity of sulphur dioxide placed in food for the purpose of marketing an excessive moisture content will be regarded as fraudulent adulteration under the Food and Drugs Act of June 30th, 1906, and will be preceded against accordingly.

"Food Inspection Decision No. 76, issued July 13, 1907, is hereby amended accordingly."

Continued next week.

Sonoma County Pomona Grange recently held an all-day session at Geyserville. The next session is to be held at Sebastopol.

Warranted to give satisfaction.

GOMBAULT'S CAUSTIC BALSAM

A safe, speedy and positive cure for

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Live Stock and Dai

CORN.

THE selection of the seed of the Indian corn, from developed productive plants, has become an established industry. One must see the corn growing to realize the difference between corn from seed without good ancestry and that from selected parentage. The increased growth is noticeable from the first day the green blades peep out of the brown earth. The increased broadness and deeper green of the tiny blades, the increased height and vigor of the full grown plant is all marked to even a casual observer. It is wonderful to compare it with nearby corn fields; it grows much faster; it seems to simply walk away from them.

Culture.

The land for the corn field, planted with pedigreed corn this year, was irrigated by flooding, well soaked, check by check. The plows follow as soon as possible to turn the land over, harrows followed the plows and wherever there were any clods formed the disc was run over them. As fast as a check was plowed and harrowed it was seeded with the corn planter in rows three feet apart. Each piece was completed at once and the corn had only to start to grow. It is hardest work to correct the tendency among the men the idea that farming in big pieces is necessary In the farming of a large place the farming must be in detail, not in general, then returns will come in for all labor expended.

Too Much Land.

Beginning with the crop, as an example. Sending in the Chinamen to irrigate first as soon as the land is ready one check at a time; plow, harrow and sow it at once. As fast as possible arrange the teams that they will follow right along with the work. If a single check has only two acres in it finish it before leaving it. Cultivate the habit on the ranch of completing each little piece. The whole will be perfect only as each little piece is well done. It is a poor way to wait until eighty or a hundred acres are all plowed and harrowed before seeding. Seeding should follow closely and not be over a day behind the harrowing. If rains or strikes or sick horses come to hold back the work, only the few trees the plows are ahead are paid for without returns. All losses are minimized if each piece of work is completed while it is in hand. Well done and completed quickly, each portion of the field should be the idea.

Pedigreeing of Corn.

The corn with a pedigree for goodness and thrift, is worth three times the price paid for the seed. It doubles and thribles the crop of corn and increases many times the weight of the leaves and stalks. Corn is unlike wheat or the cereal generally in that it is very sensitive to inbreeding. Seed corn grown on a place year after year without any new corn being purchased will run itself out. Bringing in seed from new localities must, therefore, be constantly resorted to. If we always brought in the improved forms and would sow the seeds mixed we would be able to use the seed the next two years; then we could add some more new seed. This way will keep the corn strong and th
is necessary to be sure the n
is as good as the old.

The Moisture.

Planting corn is only the b
of the work; the life of the c
cultivation. Every inch of
must be gone over and
least every three weeks;
the ground is unshaded it
well to run through lightl
days. Then the broad leav
tle and crackle as they gr
up into the hot sunshine.
ground is completely sh
several weeks, watch to
moisture from passing out
ly; usually it is safe to l
grow until it tassles befor
again. Irrigate between ev
row and follow the irriga
thorough cultivation.

Smother Crops.

The idea of smothering
sirable weed growth, has b
constantly at Farmers' Ins
am trying it. Twelve acres
moist soil had become co
morning glory. This land
irrigated, plowed and twice
the roots of the morning gl
it lumpy. This land was
a time in alfalfa and w
checked. After it was disk
smoothed with the revolvin
then sowed heavily to sorg
are watching this vegetabl
see if the native American
glory can outgrow the Chin
This is a case where we
Mongolian will come out m

First Year.

When the sorghum rows
ble we will put in a weed
try to head off the morn
We plan next year to sow ga
and oats for winter smoth
land, then to follow next
more sorghum. Of the siz
year's crop we are not san
the portion where the mor
is thickest will not be apt
much sorghum, but where
ing glory is thin we may ho
a better stand. The morn
must be controlled, and
vision of a crop of sorghun
newed energy to tackle the
it is worth while to plant
sorghum.—M. E. Sherman.

HANDLING COL

So much has been said
breaking of colts that it ha
as if there is anything else
the importance of the sub
justification for a repetiti
many have said. Wh
horse worth unless he has
ners and is under full
Without these he should b
use as will not require th
great measure, but surely
not be used except by th
men. Some men can han
any horse, but there are
will have trouble with the
a man should be careful t
the kind that is well brok
good manners, and let th
low that thinks he can ha
them have the bad ones at
are worth, and we can no
find some one who wil
chances.

If you feel as if you can
horse or colt do not try it,
discover your fears very
you have any reason to fe

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iting advertisers, mention Cultivator.

not master the colt, better get help or sell him unbroken before taking the chances of spoiling him and thus making him so much harder to conquer. The ideal way is to begin with the little fellow while yet weak and establish your mastery. Keep at it until he is old enough to hitch, and the breaking will be easy. Establish the kind of fear that will keep him from violating your commands or disregarding your authority, but not the kind of fright that will cause him to flee at sight of you and make it necessary to corner him in order to halter him. I have seen men in charge of a bunch of colts who were so brutal to the little fellows that a comfortable box stall and plenty of good feed would not induce them to "run the gauntlet" of passing their keeper.

While I am always sorry to see any kind of animal abused, it is true I have had a few colts to break that had come to that point where it seemed that only a good sound whipping would reduce them to subjection. Kindness and coaxing might have accomplished the work in time, but men do not like to pay the trainer for coaxing and petting their colts into submission when it seems like an endless job. Whenever a horse is not tractable and not easily broken or shows a disposition to be headstrong and mean, he must be brought under subjection by some method before he can be considered safe.—H. C. P.

OVERCOMING IGNORANCE.

The dense ignorance and the superstition of the native farmer of the Philippines and the task before the American who would teach him better, is illustrated by the following from the Philippine Agricultural Review:

The Bureau of Agriculture has continued to furnish American stallions, jacks, bulls and boars for breeding purposes in the provinces. In many cases the number of services rendered by these animals has not been as large as could reasonably be expected. This fact has been due to several different causes, among which are the following: There is a notable lack of appreciation of the value of better blood. In some cases horses stationed in the best horse-breeding districts have had practically no service, while hundreds of mares in easy reach were running at large with a herd of horses containing numerous native stallions of all ages and qualities. In many cases the native owner of mares does not even take the pains to breed them to the best native ponies. During the year 11 stallions and 2 jacks have rendered 228 services. Of these, 1 Arabian stallion in a remote mountain district has served 62 mares, 2 in charge of the Bureau have served 75, and the remaining 10 have served only 91, or an average of only a little over 9 each.

The groundless fear that native mares would not foal colts sired by larger horses has also continued to exert a bad influence. In other cases horses have been loaned to private parties whose interest in their use did not extend beyond the breeding of their own animals, and under such circumstances no effort has been made to secure outside mares to be bred. There have also been circulated various rumors, such as the charging of extortionate stud fees or the taking of part of the colts by the man having the horse in charge, all of which, no doubt, have had their influence in deterring those who might otherwise have patronized the horses.

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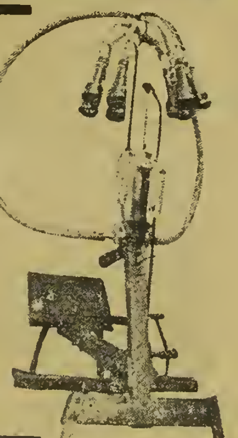

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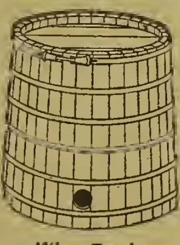
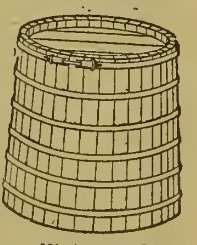


Wine Tank



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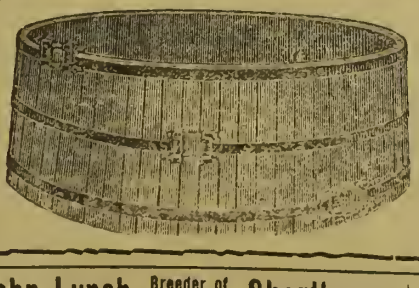

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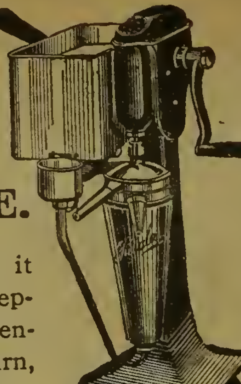

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Queries and Replie

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Rabbit Breeding.

The query of the New Subscriber in regard to White rabbits published in your last issue brings to my mind my years of practical experience with Belgian hares.

Male and female should never be left together after mating. We never left two or more animals in a pen after maturity, always separating the sexes when weaned and put each animal in a separate pen when breeding time arrived. Each doe should be provided shortly after mating with a nest box, with opening large enough to admit the mother easily. This opening should face the wall of the pen so as to exclude light and observation. It is well to have the top of the box removable in order to examine the litter a day or two after kindling. The mother should be provided plenty of straw or fine hay and allowed to build her own nest without molestation; as the time of kindling approaches see that she has plenty of clean drinking water and let her alone.

Does eat their young because they are frenzied with thirst or annoyed by curious meddlers.

We bred hares on a large scale and never had a single case of infanticide. Any further information at my command will be cheerfully given.—Bee Josephine O'Mealey, Anderson.

We think the above answers our Chino subscriber fully, and the Anderson subscriber's courtesy and help is appreciated. Anderson and Chino are several hundred miles apart, but t get close together in the Cultivator

Dewberries.

Would you kindly tell me how transplant the early dewberries? I can I tell the plants apart? I h been told unless every third plan a male plant they will not produc good crop. Are plants procured f the vines being covered the sam the other dewberry?

Why does my cabbage go to seed stead of being a firm head?—A R er, Charter Oak.

I do not know what is meant by "early" dewberry. We know no riety of that name. So far as I k all dewberries have perfect blo and there is, therefore, no nec for planting in the way sug Dewberries are propagated from root cuttings or by layerin tips. From January 1st to Marc is the best time to plant them ou

Several things may cause your bage to run to seed instead of hea up solid. An inferior quality of may cause it, and if through ne or any cause they become stunted ing their growth it may act as a p of rest and when started into g again by liberal watering or favorable atmospheric condition, run to seed instead of headin solid. The secret of successful bage growing is to have good see fertile soil and never allow the to have any severe check in g from start to finish.—Q. A. L.

Barren Satsuma Plum.

We have a fine, vigorous S plum tree set six years ago. It blooms profusely, but has never a plum. Is it lack of pollinati have other plums but they bloo than the Satsuma.—Subscribe mont.

Graft one-third of the tree to son and another third to Kelsey and you will have three of t Japanese plums in existence. T of the tree that will remain S will no doubt bear with the o varieties to cross pollinate there are some specimens of S that are always light bear other two varieties will give y fruit that ripens early and late. All three are good plums for home use though n mand by canners.

California Fruit Exchange.

Please inform me as to the of the State Deciduous Frui ers' Association,—A. C., Hem

We presume you mean the nia Fruit Exchange which fol same line with deciduous fru California Fruit Growers' E does citrus fruits. Address ter, Pres., c o California F change, 319 "J" street, Sac Cal.

Antelope Valley.

Where is Antelope valley, altitude and climate?—S. S. doel.

The Antelope valley is in t ern part of Los Angeles co western end of the so called desert. It may be said to be ing in size as new land is r though usually the portion

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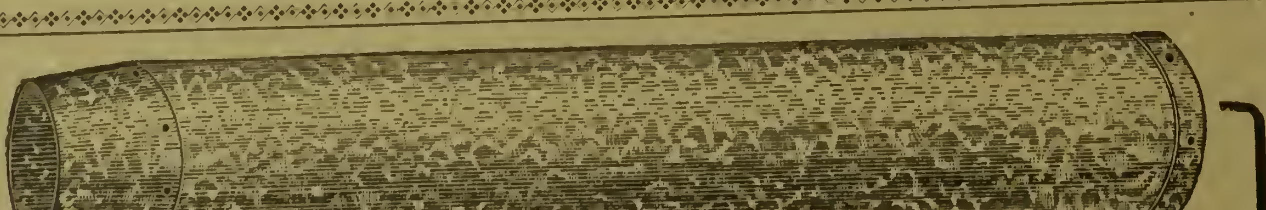

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e Southern Pacific railroad track is at which is termed the Antelope lley. Lancaster, the center of the lley, or the principal town of the lley, has an altitude of 2348 feet. climate is much like that of other uthern California points excepting at the high range between it and e ocean cuts off to a certain extent e tempering sea breezes, and occanally it is given a touch of frost. any of our Antelope valley subribers should ask as to Macdoel, may say that it is one of the newer stoffices of the State and is up in kiyou county.

ied Olives.

Can you tell us how to dry olives; o, how to make olive oil at home? G. M.

We cannot give information as to ing olives other than simply to out and dry in the natural, bitter te. The writer has cured them in t way, and, while quite bitter, they ord a pleasing relish for a picnic ch. If any subscriber has had exience in curing them by removing bitter before drying, our subiber will appreciate the informaa. Olive oil production is most too nplicated and requires too powerful ress to be practicable in home protion.

es.

Please tell me how to keep flies n a door; also from a cow's back. L. K., Colton.

uhach is the best remedy we know to keep the flies from inhabiting ook near the door. If a door is t so as to have free sweep of the d underneath the porch, flies will cely ever remain around it.

ealers usually keep the fly repell- compounds which are usually ely made of fish oil which, sprayed the cows, prevent the annoyance. better, perhaps, is a cheap barsack blanket so made so as to tie the cow's back. Flies may be ely suppressed by thorough cleans about stables, which is their ding place. Manure piles and , especially, giving opportunity their increase.

ing Mammoths.

ease give me the manner of prun- Mammoth blackberries. My often grow to the length of 20 feet, and I have been told that canes should be restricted to two hree to each hill. Should these s be topped to make them branch give more fruit wood, or is it best t them go the full length and sus- on trellis. Also will appreciate ral culture directions.—J. J. Penton, La Canyada.

have not grown the Mammoth berry nor have I seen it grown, must, therefore, confess my iny to advise as to method of cul- and pruning. On general princi- I should shorten in such ram- growth—say to 6 or 8 feet—I t the variety is the Oregon reen instead of the true mam- I have grown the former, and I could get canes 25 to 30 n length, I could get no fruit. I knew any one to succeed in g it so far south.—Q. A. L.

on Trees.

se give treatment for green- ungus or moss which grows on es of orange trees. They are ackward of growth.

well to plant second crop of es where potatoes were dug t of May?—E. B. W., San Di-

The moss on orange trees indicates a very low condition and should be corrected by scrubbing the trees with fairly strong lye solution and putting the tree in a much better condition by a more thorough cultivation and by fertilization. If they were deciduous trees, when they are dormant spraying with sulphur and lime would be the treatment. The planting of potatoes on the same ground would probably be all right if other ground is not at command, though probably better results would be secured on new land. However, not more than a couple or at most three crops should be grown without rotation.

San Jose Scale.

I am sending under cover twigs from apple tree. Please give disease and remedy.—Old Subscriber, Santa Ana.

This is a thorough infestation of San Jose scale. One of the worst we have seen in several years. Spray now with rosin wash or wait until the trees are dormant, then spray with salt, sulphur and lime.

Bermuda in Alfalfa.

What is the best and most effective metnod of destroying Bermuda in alfalfa. Also, how can I kill arrowweed and wild asparagus? How can I destroy red ants.—J. C., Imperial.

The only effective way to destroy Bermuda grass in alfalfa is to plow under deeply and raise some crop on that ground which will give it clean culture for a couple of years. Arrowweed we cannot answer as to how it may be killed, and will ask any of our Imperial valley subscribers, who have had experience, to give suggestions along that line.

Carbon bisulphide is probably the best to kill ants in large quantities. It may be poured down the holes and the opening covered with wet dirt. In a small way where there are pests around the house California Buhach, while it will not kill them will easily drive them away.

Melon Aphis.

Is there any effective means of destroying aphis on melons? A friend handed me a clipping taken from a Northern California paper in which a certain species of Japanese bamboo was described, the article claiming that actual tests showed a growth of 5½ inches in 4 hours. Do you give any credence to the story, and if there is such a plant where may one secure a start of the same?—W. O. S.

Spray with an emulsion of coal oil. Make strong, hot soap suds and to five gallons add, say, a pint to a quart of kerosene and churn it or pump it through tht spray pump until thoroughly mixed and milky.

The bamboo story may be true. We never saw such growth, but are assured that the Japanese Giant bamboo will readily grow six inches in 24 hours. Most of this growth is through the middle of the day. Most nurserymen keep the plants.

Veterinary

Dr. R. T. Whittlesey, veterinarian, of 714 East Seventh street, Los Angeles, will answer questions in this department. In writing of sickness or injury to any animal be explicit in giving symptoms and particulars. Always enclose full name and address, but if assumed name or initials are preferred they will be used.

If an immediate mail reply is wished enclose $1.00 for such service, but for replies in paper only, no charge is made if the answer will be of general interest.

A Blister.

Please tell me through your paper what to do for a deep blister on a horse's neck, just in front of the collar; have been using "Quins' Ointment" which, where applied, brings out a yellow water, but does not cure. Sometimes it is very soft, and at others it gets hard. We do not know what caused it, as we always use a collar pad.—A Subscriber, Redlands.

I do not understand what you mean by a "deep blister." If it contans puss or fluid of any kind, it should be opened and then treated as an open wound. If there is a hard tumor it should be cut out.

Inflammation of the Bowels.

I had a horse take sick in the morning about 7 o'clock with what appeared to be colic. He was not bloated, but he rolled and seemed to be in great pain. I gave him Perry Davis pain killer and soda, but it seemed to make him worse. He began to bloat and suffer a great deal. Gave him another dose, but did not relieve him any. He passed water all right and about noon his bowels moved. Still kept bloating and couldn't lie down; couldn't make him move out of his tracks only by turning him around and then he could only slide his feet. He seemed to be stupid like, slobbered a good deal, breath very short. I had the horse three years and never had any trouble of any kind before; was eight years old; was feeding oat hay, but the night before gave about a gallon of shorts. About 8 o'clock p. m. he fell down and lay about half an hour and then died. Can you tell me what the trouble was through your paper?—S. O., Corralitos.

Inflammation of the bowels. Should like to know if you drenched him through the nose as I suspect.

Obstruction in Teat.

My cow gradually quit giving milk from one teat, and now does not give any milk at all from that teat. There is milk in the teat but it seems that the valve is closed and will not open to let the milk out, as that quarter of her udder is full after she is milked. It is not the garget, as the milk was all right and perfectly healthy as long as she gave milk from that teat. The whole udder is healthy.—Mrs. M., Los Palos.

The teat should be opened with trocar and a bistoury made for the purpose. Then introduce a self-retaining milk tube and keep it in all the time until the hole through the valve is healed. You had best call in a veterinarian, however, unless you want lots of trouble.

Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

DOGS.

SABLE AND WHITE COLLIE PUPPIES—Sires, Brandane Wishaw Squire and Glen Fana Bounder, litter brother to Aufield Model. Dams, Ormskirk Gloriana and Presidio Nellie. $10 to $25; 2 to 8 months. GLENALPINE KENNELS, Grandville, Cal.

MELON SEED.

PLANT THE SANTA CLAUS MELON—Write to us for our circular of instructions. This is the best late melon ever introduced. It is at its best from Dec. 1st. to Feb. 1st. 1 oz., 25c; 1 lb., $3.00. JOHNSON & MUSSER SEED CO., 113 N. Main St., LOS ANGELES, CAL,

FARM FOR RENT.

FOR LEASE—ONE OF THE BEST equipped poultry ranches in the State for two years or more. Leasee to buy stock, about 1700 head, at from $9 down, also about 1100 this February and March hatch pullets. Ranch in first class condition. Practically new 6-room house fully plumbed. Within three-fourths of a mile of Court House; free delivery of groceries and feed. Reason for leasing poor health. A rare opportunity. Investigate. Inquire this office or on ranch. F. L. JONES, Hollister, Cal.

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FOR SALE—1 TO 10-ACRE TRACTS ON CAR line, between Riverside and new cement works; good for chicken ranches, alfalfa or gardening; will sell on easy terms; plenty of water on each tract. C. C. POND & N. R. BELL, Riverside, Cal.

FOR SALE—TWENTY AND FORTY acres, level, good land. Fine for chickens, berries, etc. $30 per acre. Very easy terms. No irrigation required. WM. MANTZ, Santa Maria, Cal.

TREES.

FOR SALE—1,500 EUREKA LEMON TREES and 1,000 Washington navel orange trees, true to name. Also street and ornamental trees. Clean, healthy stock only offered. GEO. B. WARNER, SANTA ANA, CAL.

MACHINERY.

FOR SALE AT A BARGAIN—2nd. HAND 10 H. P. Lambert Gas Engine almost new with guarantee. Can be seen at Capito Carriage Co. Repository and factory, 12th and MAIN ST., LOS ANGELES, CAL.

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FOR SALE—6 TO 8 H. P. DISTILLATE engines for sale, also centrifugal pumps. Some real bargains. BAILE & BRANDT CO., 943 N. MAIN ST., LOS ANGELES, CAL.

CHEAPEST EVER—FIVE HORSE POWER engine $115; ten, $200; twenty, $250. Brand new. See AD., PAGE 639. COWHAM SMITH CO.

POULTRY

BUFF ORPINGTONS—WOULD YOU LIKE the very best at the price of common stock? Sullivan's COMMONWEALTH STRAIN you may have at HALF FRICE FOR THE BALANCE OF THE SEASON. Write us and learn the reason; get record and illustrated catalogue FREE.—MR. & MRS. W. S. SULLIVAN, Agnew, Santa Clara Co., Cal.

FOR SALE AT A BARGAIN—THIRTY yearling W. Leghorn hens and 30 yearling White Rock hens. The best of stock perfectly healthy and laying. Address J. W. WHITNEY, R. F. D. NO. 2, BOX 162, LONG BEACH, CAL.

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SHIPPING CRATES FOR POULTRY. Write for particulars. Established 1900. A. & H. SEIBEL'S SONS, 320 E. 6th St., Petaluma, Cal.

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ORPINGTONS, BUFF AND BLACK, THE winners of the lion's share of honors at the Los Angeles County and Breeders' shows this year. The birds that win in the keenest competition and lay eggs all the year. Birds that pay as they go. Handsome catalogue free. Guaranteed fertile eggs in any quantity. Proven breeding stock very reasonable. Write today. Orpington Reservation, ROSS & TATE, Altadena, Cal.

EGGS FROM MY PRIZE WINNING BARred Rocks; won all firsts, all seconds but one, and all specials on Barred Rocks at L. A. C. P. A. Show, 1907. Eggs from best pens, $3 per 15; $12.50 per 100. Stock for sale. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

FOR SALE—BANTAM EGGS FROM RARE and beautiful birds. White Crested Polish $5.00 per setting. Blacktail Japanese, $2.00 per setting. No stock for sale. Telephone M. 4037. RALPH D. PECK, 367 S. Boylston, Los Angeles, Cal.

FOR SALE—LINE BRED WHITE ROCK cockerels from Mrs. Basley's original strain. Write for prices. Also eggs for sitting $2.50 per 15. MRS. KATE B. JOHNS, Compton, Cal.

MISCELLANEOUS.

FOR IMPERIAL VALLEY NEWS SUBscribe to the Brawley News, BRAWLEY, Cal., $1 a year, sample copies free.

ELLIOTTS OINTMENT CURES LUMP jaw in cattle—never fails—$1.00 per box. D. R. ELLIOTT, Riverside, Cal.

FOR SALE—FIVE HUNDRED FRUIT trays, 2 X 3, good order, or will exchange for four inch water pipe. JOSEPH THORNDIKE, PASADENA, CAL.

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SPECIAL NOTICE TO TEA DRINKERS—Why not drink the best. Kanawalla Ceylon Tea is the finest flavored tea grown. 5-lb. caddy, $2.50; 10-lb., $4.50, prepaid. Write for samples, F. W. SPARR, 114 E. Market St., Los Angeles.

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FOR SALE—FRESH REGISTERED JERSEY cows and young bulls. Jersey Duroc pigs $5.00 each. Brown Leghorn hens. W. J. COLE, R. F. D. 1, BOX 25, ANAHEIM, CAL.

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FOR SALE—100,000 YELLOW NANSEMOND sweet potato plants. H. G. ADAMS, 2703 E. 4th. Street, LOS ANGELES, CAL., TELEPHONE BOYLE 38.

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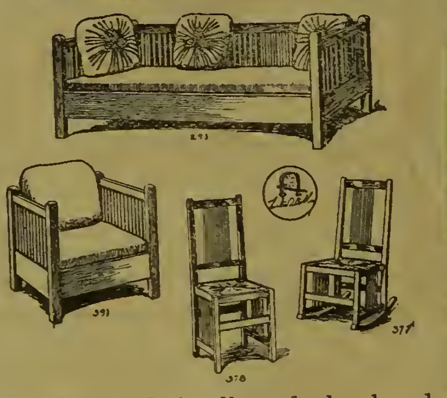

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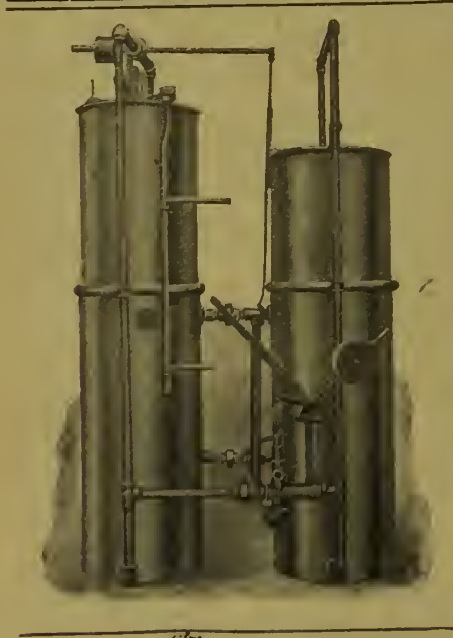

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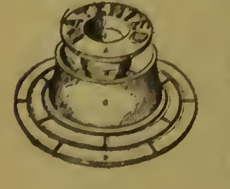

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Household Departmen

THE ORANGE GROWERS' AWAKENING.

Put away the sack and clippers,
  Put away the ladders, too;
For the golden fruit is gathered
  And there's nothing else to do,
But to just sit down and figure
  All the blossom-scented day,
How he's going to spend his wadlet
  Ere the summer flits away.

Plans a trip to "Old Virginny"
  And the home of long ago;
Float adown the broad Potomac—
  See the President, you know—
Buy a fine four-shot Pope-Toledo,
  He has dreamed of o'er and o'er,
And a furnished flat at Venice,
  All of these—and then some more.

Summer gone; oh rude awakening!
Comes a note, "you' overdrawn
At the orange growers' stand-by,"
  All his hoarded wealth is gone,
And he chuckles—softly chuckles—
  And he ponders deep and long,
"Why of course I couldn't spend it;
  And of course the bank is wrong."

And he ransacks all the drawers,
  Piling things upon the floor,
And unearths a lot of check-books,
  (Just the stubs and nothing more;)
"I have bought no bonds," he mutters,
  "Neither mines nor furnished flats;"
Then a great light fell upon him,
  He had bought two Easter hats.
—Charles L. Frazer, in Redlands Citrograph.

GOING TO JOHN.

"GOING north, madam?"

"No, ma'am."

"Going south, then?"

"I don't know, ma'am. I never was on the cars. I'm waiting for the train to go to John."

"John?"

"Oh! John's my son. He's out in Kansas."

"I'm going to Kansas myself. You intend to visit?"

"No, ma'am."

She said it with a sigh so heart-burdened the stranger was touched.

"John sick?"

"No."

The evasive tone, the look of pain in the furrowed face, were noticed by the lady who asked the questions as the gray head bowed upon the toil-marked hand. She wanted to hear the story, and to help her.

"Excuse me—John in trouble?"

"No, no—I'm in trouble. Trouble my old heart never thought to see."

"The train does not come for some time. Here, rest your head upon my cloak."

"You are kind. If my own were so I shouldn't be in trouble."

"What is your trouble? Maybe I can help you."

"It's hard to tell it to strangers, but my heart is too full to keep it back. When I was left a widow with three children I thought it was more than I could bear; but it wasn't bad as this—"

The stranger waited till she recovered her voice to go on.

"I had only the cottage and my hands. I toiled early and late all the years till John could help me. Then we kept the girls at school—John and me. They were married not long ago. Married rich, too, as the world goes. John sold the cottage, sent me to the city to live with them and he went West to begin for himself. He said he had provided for the girls, and they would provide for me now."

Her voice choked with emotion. The stranger waited in silence.

"I went to them in the city. I went to Mary's first. She lived in a great house with servants to wait on her; a house many times larger than th tle cottage—but I soon found t wasn't room enough for me—"

The tears stood in the lines of cheeks. The ticket agent came softly, stirred the fire and went After a pause she continued:

"I went to Martha's—went wi pain in my heart I never felt be I was willing to do anything so a to be a burden. But that wasn't found they were ashamed of my old body and my withered f ashamed of my rough, wrinkled —made so toiling for them—"

The tears came thick and fast The stranger's hand rested care on the gray head.

"At last they told me I must l a boarding house, and they'd kee there. I couldn't say anything heart was too full of pain. I wr John what they were going to wrote right back a long kind let me to come right to him. I sh ways have a home while he roof, he said. To come righ and stay as long as I lived. Th mother should never go out to ers. So I'm going to John. He only his rough hands and his warm heart—but there's room f old mother—God bless—him—"

The stranger brushed a tear her cheek and waited the con

"Some day when I am gone I'll never trouble them again, and Martha will think of it all day when the hands that toi them are folded and still; wh eyes that watched over them t many a weary night are clo ever; when the little old bod with the burdens it bore for th put away where it never can them—"

The agent drew his hand qu fore his eyes, and went out look for the train. The s fingers stroked the gray lock the tears of sorrow and of sy fell together. The weary h unburdened. Soothed by a t sympathy the troubled soul yi the longing for rest, and asleep. The agent went n about his duties that he mi wake her. As the fair watched she saw a smile on th worn face. The lips move bent down to hear.

"I'm doing it for Mary and They'll take care of me som

She was dreaming of the the little cottage—of the fo which inspired her long b learned, with a broken hea some day she would, homele world, go to John.—Our Du mals.

HOUSEWIFE PROVER

A time for everything an thing on time.

Clear up as you work; it t a moment then and saves t ward.

An hour lost in the mornin be run after all day.

Do not make unnecessary others.

A hot fire for roasting and fire for broiling.

Poor food makes poor bloo

Study to economize streng and money.

White meats well done, da underdone.

Never leave soap lying water.

The oven can afford to wai cake but not the cake for the

A good cook wastes nothi

THE DIET OF CHILDREN.

Between the fifth and the tenth year of a child's life the dinner should be in the middle of the day and the supper at night, says a writer in Colorado Agricultural College News notes. Frequent eating between meals should be discouraged, although a glass of milk is usally good for the child and plenty of water should be taken during the day. Nothing can take the place of milk. It is nearly a perfect food, and the majority of children can take and digest it. A child should never take a glass of milk and drink it hastily. It should be sipped slowly or it will form a large lump in the stomach. Care should be taken to have the milk fresh and clean. It is not advisable to give milk and sour fruits at the same time.

A child may take from three to four glasses of milk a day with perfect safety.

Cream is good, but should not be very heavy. Sometimes children have very rich cream poured on their cereal and it is often the cause of bad breath and a coated tongue.

A mixed diet is good for most children.

Eggs are also a valuable food, but should never be fried. The white of the egg is very digestible. Many people think that eggs cause biliousness; but this is not the case, if the eggs are cooked carefully. They should not be boiled, but should be put into boiling water and placed in a covered vessel which stands on the kitchen table.

Cereals are particularly good, but hey must be properly cooked. In ooking prepared cereals, such as atmeal and wheat, they should be ooked three or four times longer han the time given on the box. If he cereal is properly cooked, it is suall well digested. Rice, oatmeal or any of these preparations, order to be well digested, should cooked at least three hours and a alf. Corn starch used as a soup made into pudding should be oked at least thirty minutes. Do ot put too much sugar on cereals. ne-half a teaspoonful to a saucerful what the leading physicians pre-ribe.

Fruits are very important and par-ularly useful for their effect upon e bowels.

Be careful about giving fruit to ildren. Fruit should not be under-e nor overripe. In hot weather ke great care to select fruits that e in good condition. Do not give e children too much fruit. Fruit ice is good for breatkfast. Cooked uits, such as baked apples and unes are desirable. Orange juice excellent.

Do not give tea or coffee to any ld under ten years of age. It is better not to give it until they much older. Cocoa is a good nk.

While the child is young it should rn to eat in the right way. That to eat the right kind of food at ular hours, to eat slowly, and to w the food thoroughly. Many dren half chew their food. If a d learns bad habits in eating le young, it often takes years to come them.

care of disease the amount of should be greatly reduced, and re there is fever no solid food ld be given. The same rule is in hot weather; give less solid and plenty of water.

Children should not touch sausage, salted meat, or pork, until they are ten years of age. Meats, such as a mutton chop, white meat of a chicken or beef steak is good once a day. Fried meat should never be given to children.

Bread should be thoroughly dried in the oven until it is crisp. Cildren do not always like this, but soon become accustomed to it. Mutton and chicken broth with rice, soups made of peas or spinach put through a sieve are good for children over eight years old. The baked potato is very easily digested and may be given to small children.

Stewed celery and spinach are two of the best vegetables for children. They should be thorouhgly cooked and mashed or put through a sieve. Children between three or four years of age may begin to eat vegetables if the vegetables are properly cooked. Cabbage and corn should never be given to a young child.

As for desserts, a small amount of ice cream, simple puddings or custards or baked fruits.

In preparing a school luncheon, have variety. Always have sandwiches and have them made of different kinds of bread. One day white, the next whole wheat, the next brown, and perhaps a little baking powder biscuit the last day in the week. There are so many good nourishing sandwich fillings. And mothers can very easily find a number of these delicious sandwiches in some of the cook books.

Nuts often take the place of meat, but should be chopped fine and divided. If cheese is used, it should be grated and put between bread and butter. Chopped dates or figs with a little cream mixed and put between whole wheat bread, makes a very nutritious sandwich, or nuts and raisins may be chopped together. Prunes and peanuts make a good sandwich, but they must be chopped finely and put between white bread.

Fruit should be in every lunch basket. A baked apple, a banana or an orange, may be peeled and halved and wrapped in a piece of wax paper. Two or three marshmallows or a small piece of pure sweet chocolate is allowable in the lunch basket.

In putting up a school luncheon do not forget to have some Japanese napkins. They cost only ten cents a hundred. Have an extra one that the child may use as a small tablecloth to cover the desk and an extra one for the lap.

A small bottle of grape juice makes a great addition to the lunch basket.

The Northwestern Pacific Railroad, the picturesque route of California, traversing Marin, Sonoma, Mendocino, Lake and Humboldt counties, has ready for distribution, "Vacation, 1908," giving full information in regard to camping spots, mineral springs, resorts and country homes and farms to suit every purse and taste. This book can be obtained by applying at Southern Pacific and Santa Fe ticket offices, Los Angeles, Cal.

NOT QUALIFIED TO DECIDE.

"Mrs. Cissie said she thought it must be very pleasant to be married to a clever man!"

"And what did you say, wifie?"

"I told her that of course I didn't know—I had only been married once!"

Ferndale is holding a farmers' institute this week.

America's Most Famous Summer Resort
Never Hot Never Cold Always Delightful

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Open Now

Reduced Rates Until June 10th

Coronado Tent City is literally a city of tents and Palm tent houses, large and small, furnished or unfurnished, with kitchen tent in rear if desired, accommodating one to eight people. Tents grouped about a common court for social or fraternal societies.

300 New Palm Tent Houses

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Joshua S. Hammond *Manager Coronado Tent City*
Coronado Beach, California
or H. F. NORCROSS, Agt., 334 S. Spring St., Los Angeles, Cal.

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Are you an old or new subscriber? ______________

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The Produce Markets

Los Angeles Markets

LOS ANGELES, June 3, 1908.

Butter quotations remain as last week with the market firm. The receipt of 30,000 pounds on Tuesday indicates the quantity coming in this season. It is predicted that the next change will be an advance.

Creamery ex per roll	47½
Firsts	45
Dairy	22
Cooking	17½
"Butterine"	15@20

Cheese.

Southern California	15½
Northern fresh	14@15
Eastern singles	15½@16
Longhorn	18½
Cheddars	17
Imported Swiss	27
Swiss	19
Oregon	18
Limburger	21½

Eggs and Poultry.

Eggs were marked up one cent on Tuesday and the receipts are shrinking materially.

Eggs local candled	23
Eggs case count	20@21
Firsts fresh	22
Eastern fresh	19¾
Hens per lb	10@11
Young roosters per lb	17
Fryers	18
Broilers per lb	18@20
Roasters	16@18
Old Roosters	7
Turkeys	18@20
Geese	11
Ducks	11@12
Squabs	1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds	6¼ @6½
Prime steers	4¼@4½
Heifers	3½@4
Calves per lb	4½@5
Sheep ewes per head	4.25
Lambs per head	3.00@3.25
Wethers	4.75

Potatoes.

Highlands	1.25
Early Rose	1.70@2.25
Burbanks	1.40@1.50
Salinas	1.25@1.50
Sweet potatoes per sack	3.75@4.00
Sweet, white	1.50@1.60
Oregons	1.40
White Rose	1.35
New potatoes by lb	1½
Lompoc	1.50@1.60

Onions.

Bermudas per 100	1.75@1.90
Bermuda per crate	1.15
Silverskins new	1.25@1.50
Crystal wax per crate	1.50
Garlic	9@10

Vegetables.

Artichoke per box	50
Asparagus per lb	7@9
Asparagus green per box	1.50@2.00
Beets per doz	25
Bell peppers per lb	17@20
Beans limas per lb	10@12
Beans green	4@5
Cabbage sack	40@50
Cabbage red per lb	2
Celery per doz	60@75
Celery Golden Heart	60
Corn per doz	45
Chili peppers per lb	15
Cucumbers per doz	85@1.25
Cauliflower	60
Carrots per doz	25@30
Egg plant lb	7@9
Green onions doz bunches	20@30
Horseradish	9@10
Hubbard squash per lb	1@1½
Lettuce per crate	90@1.00
Mint per box	40
Okra	22
Peas sugar per lb	3@3½
Parsley	30
Parsnips	35@40
Rhubarb per box	30
Radishes per doz	15@20
New summer squash per box	85
Summer squash	40@50
Salsify	15@20
Spinach per doz	15@17½
Turnips doz bunches	40@60
Tomatoes per box	1.00@2.00

Citrus Fruits.

Navels fy	2.50@2.75
Navels ch	1.25@2.00
Valencias	2.50@3.00
Tangerines	2.00
Culls	40@80
Grapefruit seedless	2.75@3.00
Grapefruit seedlings	1.50@1.75
Lemons fancy	1.25@2.50
Lemons choice	75@1.00
Limes 15-lb. box	85

Fresh Fruits.

Apricots per crate	1.75@2.00
Bellefleurs	2.00@2.25
Baldwins	1.50@1.75
Greenings	2.25@2.75
Pippins 4-tier	1.50@1.75
W W Pearmains	2.00@2.30
Colorado Jonathans	3.00
Cal Ben Davis	1.75@2.00
Cantaloupes std	6.50
Cantaloupe ponies	6.00
Cantaloupes specials	2.50
Cherries	75
Cherries black per lb	8
Cherries white per box	60@75
Royal Annes	85
Currants per box	1.50
Dewberries	4
Figs 8 lb box	1.75@2.00
Plums per box	90
Peaches per lug box	1.75@2.00
Raspberries	5@6
Strawberries	2@3
Extra fancy	10
Blackberries	3¼
Loganberries	5@6
Gooseberries	12½

Dried Fruits.

Apricots	10@11½
Evap. apples fy per lb	7@8
Figs loose	7
Peaches	9@11
Pears	16
Nectarines	16
Prunes	4@4½

Beans Dried.

Limas per ctl	5.00@5.50
Pink No 1	3.75
Lady Washington	4.50
Small White	4.75
Black Eyes	3.80@4.00
Garvanzas	4.80@5.00
Lentils	9@10
Bayou	3.90@4.00

Nuts.

Almonds per lb	15@17½
Pecans polished	16@17
Peanuts Virginia	8½
Peanuts California	8½
Walnuts No 1 SS	14

Honey.

Extracted Water White	7¼@7½
Comb W W	16
Comb light amber	12½@14

Hay.

Price paid to producers f. o. b. Los Angeles are as follows:

Barley No 1	15.50@16.00
Barley No 2	11.00@15.00
Alfalfa northern per ton	12.00@13.00
Alfalfa local	12.50@14.00
Plain oat No 1	15.00@17.00
Wheat No. 1	15.00@16.00
Wheat No. 2	11.00@12.00

Grain.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl	1.90
Wheat in 100-lb sacks	1.95
Kaffir corn	1.80
Barley	1.55
Corn Eastern sacked	1.90
White oats	1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn	1.95
Shorts	1.80
Bran	1.65
Oil cake meal	2.50
Feed meal	2.00
Rolled barley	1.70

NOT MERE VANITY.

The rich man was building a $100,000 mausoleum, in which he expected his bones to be placed.

"It may look foolish," he admitted, "but I got the safety deposit habit during the panic."

Joseph Chamberlain was the guest of honor at a great municipal dinner. It was time for the toasts; the Mayor leaned to the distinguished guest and whispered:

"Shall we deliver our speeches now, or let the people enjoy themselves a little while longer?"

San Francisco Markets

SAN FRANCISCO, June 2, 1908.

Butter.

Butter declined one cent after last week's report and remained at 23 cents through the week where it now stands. Market is rather easy with few sales taking place.

California extras per lb	23
California firsts	22½
California seconds	22
Fresh packing stock	21
Fresh packing stock No. 2	19

Cheese.

California young American fy	14
Firsts	13
California flats fy	11½
Firsts	11
Young America fy	14½
Eastern fy	16
Oregon fancy	14

Eggs and Poultry.

Eggs dropped a cent the last of the week and again on Monday went back to 22 cents or still a half cent under last week's quotation. The market is now very firm.

Fresh ranch eggs	22
Eggs firsts per doz	20½
Eggs second per doz	18
Eggs thirds	17
Eastern seconds	17
Hens per doz	5.00@6.50
Hens extra	6.50@7.50
Young roosters	7.50@8.50
Old roosters	3.50@4.50
Fryers per doz	6.00@7.00
Broilers per doz	3.00@4.00
Geese per pair	1.75@2.00
Goslings per pair	2.00@2.50
Ducks young	4.00@5.00
Turkeys per lb	14@16
Pigeons	1.35@1.50

Live Stock.

Steers No 1	4
Do second quality	3½
No 1 cows and heifers	6½@7
Hogs 80 to 200 lbs	6@6¼
Hogs 200 to 300 lbs	5¾
Calves per lb	3½@4½
Lambs spring	5@5½
Wethers No 1	4½
Ewes No 1	4
Shorn sheep	½ cent less

Potatoes.

Oregons are coming in in large quantities and the market on them is very easy.

River Whites	40@85
Oregon Burbanks	90@1.10
Salinas Burbanks	75@1.15
Sweets per crate	2.50@3.00
New potatoes per ctl	1.00@1.50

Vegetables.

Asparagus per lb	3@6½
Celery per doz	35@50
Cucumbers per doz	30@75
Chili peppers per lb	8@15
Corn per doz	20@40
Egg plant per lb	8@12
Green peas per sack	1.00@1.50
Squash per box	60@75
Marrowfat squash per sack	60@75
Hubbard squash per sack	60@80
Onions green per box	45@50
Rhubarb per box	75@1.00
Tomatoes	1.75@2.00
String beans	3½@6½
Wax beans	4@6
Garlic new	4@5

Onions.

Oregon yellow	3.50@4.00
Eastern red	90@1.10
Bermudas per crate	65@1.00
Australian Brown	3.25@3.50
Red	1.00@1.25
Silverskins	1.00@1.15

Citrus Fruits.

Navels fy	2.50@3.75
Navels ch	1.90@2.10
Valencias fancy	3.50@3.75
Grapefruit seedless	3.50@4.00
Grapefruit seedlings	1.75@2.25
Tangerines	1.50@2.00
Lemons	2.75@3.00
Limes	5.00@5.50

Fresh Fruits.

Newtons	1.65@2.00
Spitzenberg	1.75@2.00
New green per box	60@75
Apricots per box	65@1.00
Blackberries per crate	1.25@1.50
Strawberries per ½ crate	1.00
Longworths per chest	8.00@9.00
Cherries white per drawer	35@60
Cherries black	60@75
Cherries bulk	2@7
Currants	60@75
Gooseberries	75@1.00
Loganberries per crate	90@1.50
Melons per crate	2.00@4.50
Plums per box	50@75
Peaches per box	1.00@1.25
Alligator pears per doz	7.00@9.00
Raspberries per crate	1.50@1.75
Raspberries per chest	12.00@15.00

Dried Fruits.

1908 crop of prunes is being contracted for at 4c basis.

New crop contracts for apricots per lb. standard, 7 @ 7¼; choice, 7½ @ 8; fancy, 8@9.

Peaches standard, 6@6½c; choic 7@7½; fancy, 7¾@8.

Apples (evap.)	5@
Apricots per lb	8@
Figs white	2¼@3
Nectarines	10@
Plums pitted	12@
Peaches	6@
Pears	5½@
Prunes 4-size bag basis	2¾@3

Beans Dried.

Limas	4.90@5.
Pink	3.25@3.
Small white	4.35@4
Large white	4.35@4
Lady Washington	3.45@3
Black eyes	3.25@3
Red kidneys	2.75@3
Garvanzas	2.25@2.
Bayo	3.10@3
Horse beans	2.25@2

Hops.

Hops per lb	3½
Hops old fancy	1

Honey.

Clear white comb	16@
Amber	12@
Extracted	7½@
Beeswax No 1 per lb	26@
Beeswax No. 2 per lb	23@

Hay.

Somers & Co. say:

The weakening in prices during past week has had the effect of creasing shipments of hay to mark total arrivals amounting to 3150 in comparison with 3410 last we Last year it was a matter of transp tation for although stocks were n too plentiful in the country, yet e one was rushing his holdings to ket to take advantage of the h prices that were ranging at from to $3 per ton above our present m ket. This year cars are plentiful stocks much heavier than last sea but trade is much lighter and the eral outlook weaker.

The recent cool weather has h tendency to delay shipments of hay for in many districts the crop not yet ripened and is, therefore, increasing in quantity.

Very litle new hay has been mar ed as yet, the few cars that hav rived being new Volunteer of good grade. It will probably b month from now before cons will take to new crop hay at all r ily and meanwhile we have more an ample supply of old hay to sa the rather moderate demand her

We can see nothing at the m to change the ideas which we held for some little time past, the hay crop will be ample for needs and that prices will decline moderate range several dolla ton below the present quota which we give today as follows:

Choice wheat hay	16.00
Good wheat hay	13.50
Other grades same	11.50
Wheat and oat	12.0
Tame oat	11.50
Wild oat	10.00
Stock hay	8.00 to
Alfalfa	9.00@
Straw, per bale	

Grain.

Wheat No 1	1.62
Barley No 1	1.37½
Corn small yellow	1.75@
Oats white	1.
Oats gray	1.52½

Feed Stuff.

Bran per ton	32.00
Feed cornmeal per ton	39.00
Cracked corn per ton	40.0
Rolled barley per ton	31.0
Oil cake meal per ton	38.0
Cocoanut cakes per ton	28.0
Middlings	34.0

Citrus Market

LOS ANGELES, June 3,

The situation in the citrus fru ket is most satisfactory. Va are going forward satisfactorily increased price has lowered co tion to a certain extent, but w les than 5000 cars yet to go thought that all the remainde command most good Navels are practically all on th ket; sweets, seedlings and largely cleaned up so that V will soon command the field.

Lemons are advancing, owing weather of the East. Foreign still coming in quantity, but are ing poor keepers.

NEW YORK, June 1.—Eight four mixed, five seeds, two one lemon, one sweet. Market on good quality stock Weather cloudy and muddy

NAVELS—

Ostrich S B Ft Ex
La Mesa Riv Ft Ex
Pointer AC G Ft Ex
Quail O K Ft Ex
La Mesa Riv Ft Ex
Golden Riv Ft Ex
Squirrel A H Ft Ex
Alta Cresta A H Ft Ex
Robusta A H Ft Ex

500,000 Feet of
Water Pipe and Well Casing
All sizes, any amount. Special Prices while it lasts. Write or Phone for Prices.
Adams Pipe Works
2025 Bay Street, Los Angeles, California
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Green Print Riv Ft Ex	1.85
Quail O K Ft Ex	3.25
Gavilan Riv Ft Ex	3.10
Cerrito L V W Brown	4.90
Swastika L V W Brown	4.00
Orchard T I Nat O Co	4.70
Standard T I Nat O Co	3.75
Flower Gr Ex Upland	3.80

SEEDLINGS—	
ris D M Ft Ex	3.75
Violet D M Ft Ex	3.50
Blue Globe Riv Ft Ex	2.90
Red Globe-Green Print Riv Ft Ex	1.65
El Toreador San Mar Gr Assn.	2.90
Swastika L V W Brown	3.00
lover Mt Gr Ft Co	2.90

MEDITERANNEAN SWEETS—	
Airship Filmore Cit F As	3.20
Violet D M Ft Ex	3.35
Palmtree A H Ft Ex	2.35

ST. MIKES—	
La Mesa Riv Ft Ex	3.35
Squirrel A H Ft Ex	3.10
Whittier A C Denman & Son	3.55
Mayflower R J Richardson	3.55
Buena R J Richardson	3.10

TANGERINES—	
Golden Rule Riv Ft Ex	1.15

LEMONS—	
ndependent Gr Ft Co	2.40
hoice	1.95
V S Corwin	2.70
hoice	2.40

ST. LOUIS, June 1.—Weather cool. larket firm. Seven cars sold. Seventeen on track.

NAVELS—	
agle High Ft Ex	3.50
Pico S T Ft Ex Whit	2.45
ankee Doodle High Ft Ex	2.45
et S A Ft Ex San Dimas	3.35

LEMONS—	
efender Altland Ft Co	2.15
rusader C J Shepherd	2.15
oyote O K Ft Ex	2.20
roubador A H Ft Ex Arling	2.15

BOSTON, June 1.—Eleven cars sold, venty-two on track. Weather warm. larket higher.

NAVELS—	
strich S B Ft Ex	3.90
uail O K Ft Ex	3.10
weetheart High Ft Ex	3.95
aurel Q C Ft Ex Cor	3.05
ey S T Ft Ex Fernan	4.05
rchard Nat O Co	4.10
inner S B Ft Ex	3.65
uail O K Ft Ex	3.45
gle High Ft Ex	3.60
rincess Q C Ft Ex Cor	3.45
unnel S T Ft Ex Fernan	3.60

ST. MICHAELS—	
ependent Grs Ft Co	3.70
fornia Beauty	3.05
ation M & Greene	2.85
ey S F Ft Ex Fernan	2.55
unnel	2.45

SWEETS—	
dependent Fancy Grs Ft Co.	3.65
rnation M & Gre	3.00
ey S T Ft Ex (Wolfskill sweets	3.45
unnel Wolfskill	3.20

otice to Fruit Dryers

The undersigned having taken up his Apricot Orchard, offers his

rying Outfit For Sale

4000 TRAYS, 36x30 INCHES,
7 CARS, WITH TRANSFER

Trays 5 redwood **sawed** shakes secured by pine frame, three laths underneath making them stiff and strong. Never been exposed to the weather; good as new. Will deliver for cash f. o. b. at Guadaloupe, S. P. R. R., at $80.00 per 1000. Cars at $2.50 each. Address

J. Williams - Santa Maria, Cal.

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For Tickets and Connections see

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H. H. VINCENT, General Agent

553 South Spring St., Los Angeles, Cal.

HALVES—	
Quail O K Ft Ex	1.40
Coyote	1.30

BOXES—	
Sweetheart High Ft Ex	2.65

PHILADELPHIA, June 1.—Four cars navels, two St. Michaels, one seedling, one sweet, five mixed, two lemons sold. Market is strong on good fruit. Weather favorable. Thirteen cars on track.

NAVELS—	
Quail O K Ft Ex	2.85
Pico S T Ft Ex Whit	2.00
Pointer A C G Ft Ex Glendora.	3.40
Quail O K Ft Ex	3.00
Partridge C C U	2.62
Yankee Doodle High Ft Ex	2.53
Stork S A Ft Ex Clare	2.25
Hunter A C G Ft Ex Glen	2.40
Coyote O K Ft Ex	2.79
Lighthouse C C U	1.76

SEEDLINGS—	
Mission Bells A B Chapman	3.28
Slover Mt. Grs Ft Ex	2.88
Mission Memories A B eChapman	3.04
Partridge C C U	3.00
Lighthouse C C U	2.34

SWEETS—	
Independent Grs Ft Ex	3.42
Mocker Spence Ft Co	3.00
Lighthouse C C U	2.42

ST. MICHAELS—	
Blue Flag Spence Ft Co	3.29
Mocker Spence Ft Co	3.17
Pickaninny	3.09
Transcontinental SS F Ex El Mod	2.20
Goldfinch	1.78
Pointer A C G Ft Ex Glen	3.03

VALENCIAS—	
Pointer A C G Ft Ex Glen	4.00

LEMONS—	
A W W Escondido Liberty	1.60
Foxaway	1.46
Belt	1.62

PITTSBURG, June 1.—Twelve cars sold. Seventeen on track. Market is strong on good fruit.

NAVELS—	
Pico S T Ft Ex Whit	1.60
Quail O K Ft Ex	3.45
S S Brand S S Ft Ex Orange	2.90
Blue Jay O K Ft Ex	2.75
S S Brand S S Ft Ex Orange	2.70
Stock Label Riv Ft Ex Riv	2.60

SEEDLINGS—	
Climax E Peycke Co	3.80
Chief	2.30
Golden West Haight Bethel	3.15

SWEETS—	
Mutual R H Orange Co	3.55
Corona Queen Spence Ft Co	3.50
Our Popular F H Speich	3.10
Blue Jay O K Ft Ex	2.45

ST. MICHAELS—	
Blue Jay O K Ft Ex	3.35

BLOODS—	
Blue Jay	2.85
Fairview Riv Ft Ex Riv	3.00

VALENCIAS—	
Fairview	3.60
George Washington	3.75
Corona Queen Spence Ft Co	4.30

LEMONS—	
Las Puentas C S Co Summerland	1.45
Montecito	1.35

CINCINNATI, June 1.—Market is weak. Weather cool. Five cars sold. Five on track.

NAVELS—	
Eagle High Ft Ex	3.35
Victor S A Ft Ex Clare	2.60
Pet S A Ft Ex San Dimas	2.45

LEMONS—	
Las Ppentas C S Co Summerland	1.36
Montecito Crocker-Sperry Co Sum	1.35
Sardonyx C C U	3.00
Sunrise C C U	2.75

CLEVELAND, June 1.—Weather cool; market declining. Seven cars sold. Fourteen on track.

NAVELS—	
Golden Riv Ft Ex Riv	2.25
Lochinvar R H Ft Ex High	3.60
Coyote O K Ft Ex	3.15

ST. MICHAELS—	
Argonaut S T Ft Ex Fuller	1.75
Hacienda S B Ft Ex Fuller	1.75
La Mesa Riv Ft Ex Riv	2.55
Square Riv Ft Ex Riv	2.75
Squaw Patee & Lett	3.30

LEMONS—	
Golden Riv Ft Ex	2.40
Whittier S T Ft Ex Whit	3.45
Pico S T Ft Ex Whit	3.55
Picnic S T Ft Ex Whit	3.30

SWEETS—	
Highlander High Ft Gr Assn.	3.10
Cactus High Ft Gr Assn	2.30

FEW DO.

"In buying my ranch, I fell heir to the Cultivator, in which I am deeply interested and can hardly see how a California rancher could get along without it. Perhaps few do."—C. R. L., Lemon Grove.

His last sentence is to the point; very few are not acquainted with the Cultivator.

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

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CRESOLENE

Lice Killer
Disinfectant
and Dip

Dilute With Water Before Using

CRESOLENE is a powerful disinfectant, insecticide and germicide obtained from coal tar. It is non-poisonous, and non-corrosive and will do no harm to the most delicate skin.

It mixes readily with water, forming a milky emulsion, and can, therefore, be diluted from 50 to 100 times its own bulk, in accordance with the different uses to which it is put.

Thus when you purchase 1 gallon of CRESOLENE you can make up to 100 gallons of the best disinfectant at a cost of only 11-4 cents per gallon. Write us for particulars and guarantee.

PRICES: Quart can 50c; One-half gal. 85c; Gallon $1.25.

Freight Paid on Orders of One Gallon or More

Manufactured by

Coulson Poultry and Stock Food Company

Petaluma, California

Germain Seed Co., Los Angeles, Distributing Agents for So.Cal.

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WE PAY YOU TO INSPECT THESE HAY PRESSES.

Instead of paying a salesman's fare to show you a small model of a hay press, we will pay your fare to Los Angeles and return, not exceeding $15.00, to examine our California Special New Century, full circle, all steel, self feed Hay Press and all others on sale there. It makes no difference which hay press you buy, we pay your railroad fare just the same.

When you see for yourself how this machine has been built expressly for heavy baling on the coast, how strong it is, how easy it is on horses, what smooth bales it turns out, you will understand why we make such an offer. It has 7-in step-over, pull power, high baling chamber, positive plunger rebound; it stands up to its work, no taking off of wheels. Has record of 39 tons per day. We will ship you one to try. If you don't want it we will pay freight both ways. Write now.

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LOOK AT THESE PRICES: 2 H. P., $65; 5 H. P., $115; 10 H. P., $200; 20 H. P., $250

Other Sizes equally cheap. Direct connection; no belts; no valves; no trouble. Wonderful new igniter

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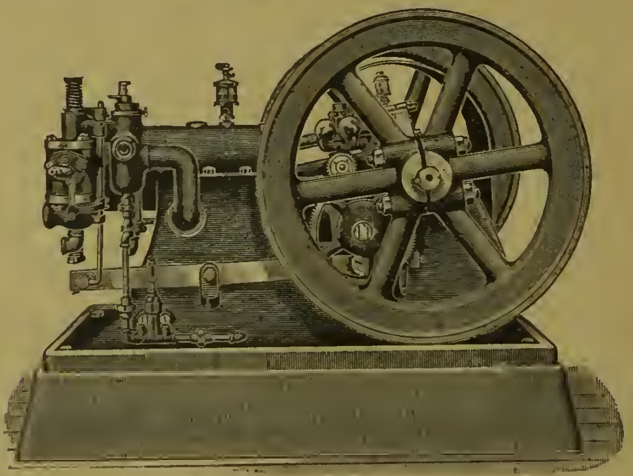

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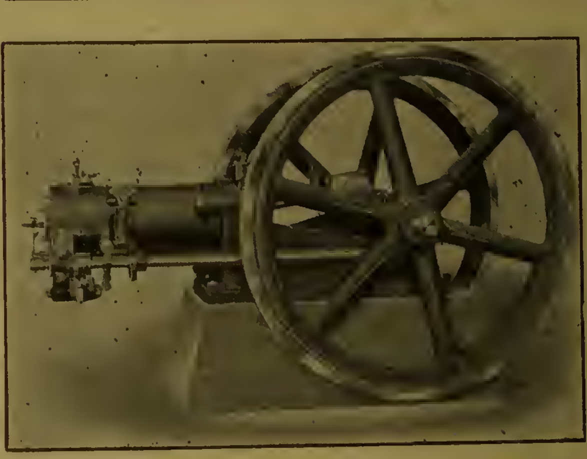

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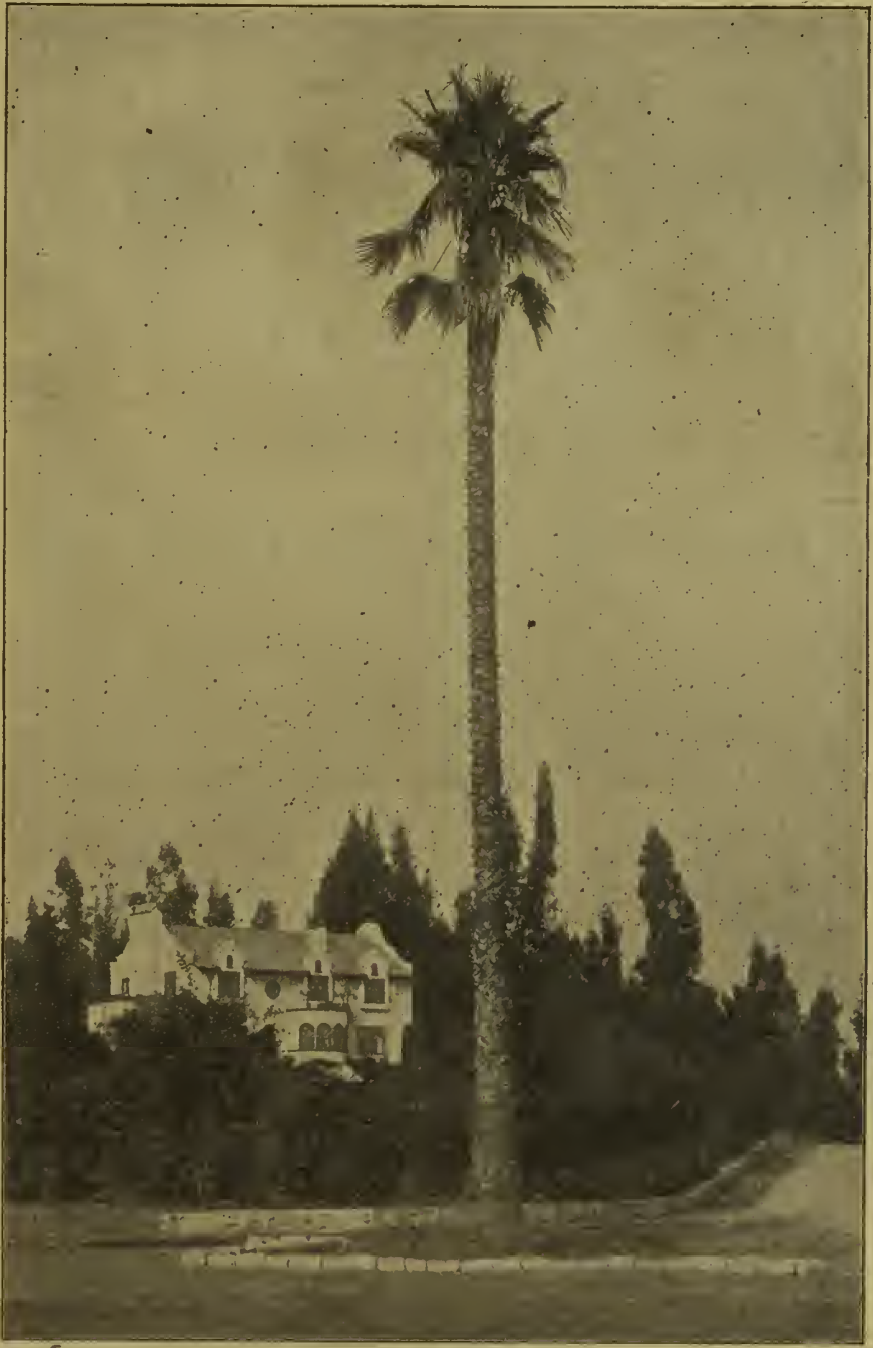
Published Weekly

One Dollar a Year

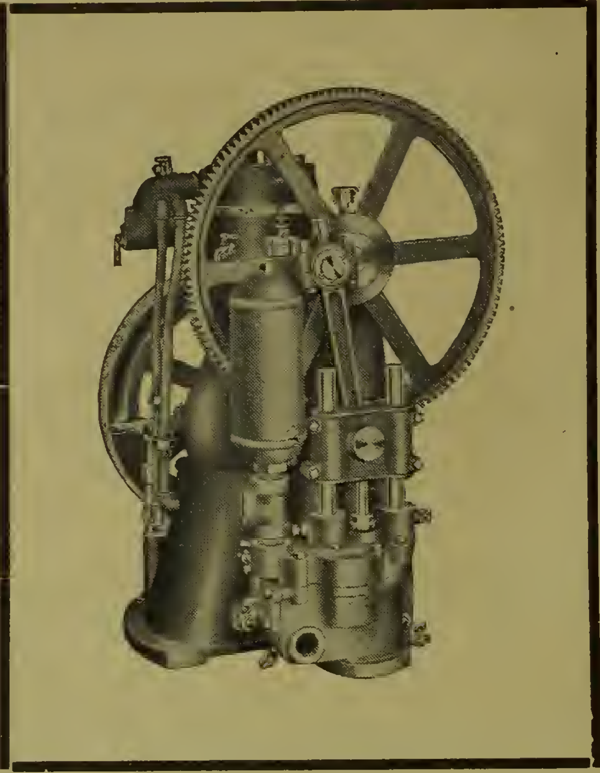
Los Angeles June 11, 1908 San Francisco

A Stately Palm at Riverside



Some years ago when the famous Victoria avenue of Riverside was laid out, a fitting mark to place at its entrance was the magnificent palm above pictured. It was moved to its present location when almost as large as it is now and it has thrived wonderfully. It is a noble palm and graces a noble avenue. Regarding the avenue, E. T. Mauzy in the Riverside Press, recently wrote the accompanying poem.

Bathed in California's golden light,
There lies, indeed, a sweet and heav'nly sight.
Along superb Victoria's beauteous way,
Where the charmed soul would fain forever stay
And be a guest at Beauty's royal feast,
Safe from the fierce storms of unfavored East.
Here where undying summer reigns supreme,
Where luscious fruits spring forth, gay flowers gleam,
They give to placid air a perfume sweet,
And fold in dreamy clasp Life's mortal seat.
Oh wondrous thoroughfare, like Cashmere's Vale,
Enchanting scenes of mountain, hill and dale,
This winding street, this tree-lined avenue,
Where every turn reveals a rapturous view,
Where myriad trees with quivering foliage green,
Like a vast sea, fairer than eye hath seen;
Where golden oranges, nectar filled, hang low,
Neighbored by ripening lemon's yellow glow,
And drooping peppers, fragrant camphor trees,
Tall, stately palms that bend in spicy breeze,
Ah! this is great earth's fairest garden spot!
And blest be they who here find life's sweet lot,
Where royal sun gives forth health-giving glow,
And soft, sweet, soothing zephyrs ever blow.
From far-off climes, a yearly pilgrimage,
A host, comes trooping to this heritage,
To spend sweet hours where snow cap'd mountains
rise,
Renew their youth in this fair Paradise.
Go search the boundless world's most favored place,
That man hath seen, or doth in legend trace,
Where nature hath, with ease, great beauty formed,
Or man with thought and skillful hand adorned,
All, all, is in Victoria's glory dimmed.
Like the pale, far off stars by dark skies rimmed
Which fade in the matchless radiance of the sun.



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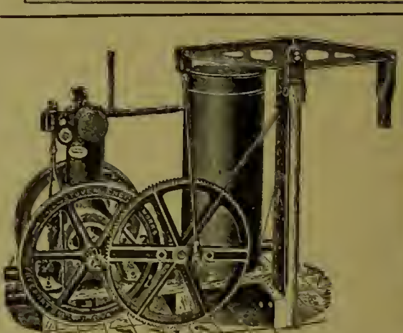

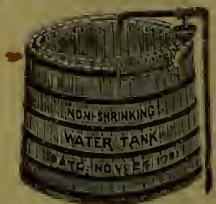

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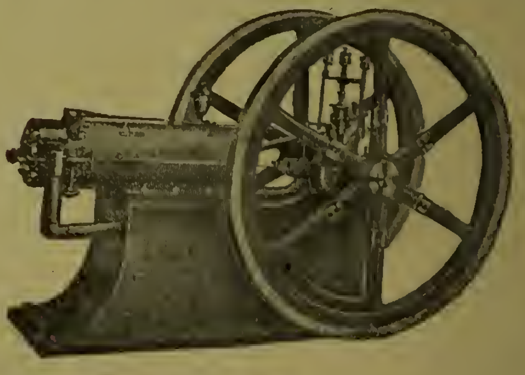

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ol. XXX—No. 24 Los Angeles, California, Thursday, June 11, 1908 Subscription $1 a Year

Conservation of Our Natural Resources

Two Fairy Stories Written by Gifford Pinchot, Forestor of U. S. Department of Agriculture

HE conservation of our natural resources is a subject which has received little attention in the past; but the facts in the case are so mple, the principles so elementary, and our duty ear that they might be fitly presented in a ike one of the old fairy tales that we all d when we were boys and girls. Such a ory would run like this:

Story With a Moral.

Once upon a time there was a young man who ad been given a great property in a distant re- n and who left home to take possession of it. hen he reached his property he first made him- acquainted with it. As he explored it and d its value he began to think how he ould make his living out of it. The problem not a hard one. He found that his property wonderfully rich, and supplied his needs at e cost of far less exertion than he would have d to make at home, for it was a fair land, well atered, well timbered, abounding in game and with broad meadows for cattle and horses eep, and with no small store of rare and minerals and an outcrop of excellent coal. was easy, and he lived lavishly and joyously, the initial hard work of moving in and ng his house and raising his first crops was He had far more land than he could use, ore game, and what he lacked he was able y from home with furs, with timber, with als and with the surplus of his crops.

ey Married.

By and by he saw and liked a girl and finally arried her. Together they prospered on the operty, which seemed too rich to make it necessary for them to trouble about the future. ere was still plenty, though less so than at t; the timber, though growing less, was still dant enough to last longer than they could pe to live, by breaking new land they could ays count on marvelous crops; the coal was little harder to get at, but still close to the face and besides the man only dug out the t to reach, and when the earth began to in he merely started again at a new place. stock grazing on the meadows, had trampled out some of the grass, but there was still no k. That some day strangers would possess r property when they had done with it, and ld find it somewhat run down, did not trouble these two good people at all.

ir children came to them with the years, and and by these children began to grow up. n the point of view of the man and his wife anged. They wanted to see their sons and ughters provided for and settled on this property of theirs, and they began to see that what as enough and to spare for them would not pport all their children in the same comfort less they themselves used it with better foresight. Through thinking of their children they re led to live more in the future.

osperity Came.

They looked forward and said to themselves: "Not only must we meet our own needs from s property, but we must see to it that our children come in for their fair share of it; so that er a while the happiness we have had here ay be carried to them." So the family established itself. The man became respected, and s children grew up healthy and happy around m; and when in the fullness of time he passed away and his children took the place in which he had stood, because of his foresight and care they enjoyed the same kind of prosperity he had enjoyed.

It is a perfectly simple story; we all of us can name scores of men who have done this same thing. The men and the women who do it are not famous, are not regarded as remarkable in any way; they are simply good, everyday, average citizens, who are carrying out the duties of the average citizen.

What We Have Done With Our National Resources.

Once upon a time there was a young nation which left its home and moved on to a new continent. As soon as the people who formed the first settlements began to examine the value and condition of this new continent, they found it marvelously rich in every possible resource. The forests were so vast that, in the early days, they were not a blessing, but a hindrance. The soil was so rich and there was so much of it that they were able at first only to cultivate the edges of their great property. It was quite plain to these people in the early times that, however much land they might cover, however much they might waste, there was always going to be plenty left. As time went on they discovered greater and greater resources. They found wonderfully rich deposits of metallic ore; great oil and gas fields and vast stretches of the richest bituminous and anthracite coal lands; noble rivers flowing through broad expanses of meadow; rich alluvial prairies; great plains covered with countless herds of buffalo and antelope; mountains filled with minerals; and everywhere opportunities richer than any nation had ever found elsewhere before.

Always A Plenty.

They entered into this vast possession and began to use it. They did not need to think much about how they used their coal or oil or timber or water—they would last—and they began to encroach on the supply with freedom and in confidence that there would always be plenty. The only word with which they described what they had, when they talked about it, was the word "inexhaustible."

Let us see for a moment what the course of development of this young nation was. First of all they needed men and women to settle on the land and bring up children and have a stake in the country. That was absolutely necessary before they could develop the great nation which some of them saw ahead. As the population spread there arose a need that great systems of transportation should be built to knit the country together and provide for the interchange of its products. These railroads called for iron, coal and timber in great quantities. Then began an unprecendented demand upon the forests. They could not build these transcontinental railroad lines without millions upon millions of railroad ties cut from the forests of the country; and they could not mine the iron and coal except as the forests gave them the means of timbering their mines, transporting the ore, and disposing of the finished product. The whole civilization which they built up was conditioned on iron, coal and timber. As they developed their continent, richer than any other from the East coast to the West, new resources became revealed to them, new interests took possession of them, and they used the old resources in new ways.

In the East, the rivers meant to them only means of transportation; in the West they began to see that the rivers meant first of all crops; that they must put the rivers on the land by irrigation before they could grow wheat, alfalfa, fruits, sugar beets and other crops that make the West rich. They found that to feed the vast population which had grown up in the East they must have the vast ranges of the West to grow meat. They found that the resources of soil and water which produced the wheat, the cotton and the meat—of iron and coal, and of timber, together made up the working capital of a great nation, and that the nation could not grow unless it had all of these things. In taking possession of them our nation used them with greater effectiveness, greater energy and enterprise, than any other nation had ever shown before. Nothing like our growth, nothing like our wealth, nothing like the average happiness of our people can be found elsewhere; and the fundamental reason for this is, on the one side, the vast natural resources which we had at hand, and on the other side the character, ability and power of our people.

Now what have we done with these resources which have made us great, and what is the present condition in which this marvelously vigorous nation of ours finds iself? The keynote of our times is "development." Every man from New York to San Francisco looks to the development of the natural resources to produce the advantages and the opportunities he wants for his neighbors and his friends. Anyone who questions the wisdom of any of the methods we are using in bringing that development to pass, because he believes we are making mistakes that will be expensive later on, is in danger of being considered an enemy to prosperity. He is in danger of having it thought of him that he does not take pride in our great achievements, that he is not a very good American. But in reality it is no sign that a man lacks pride in the United States and the wonderful things our people have done in developing this great country because he wants to see that development go on indefinitely. On the contrary, real patriotism and pride in our country make it the first of all duties to see that our nation shall continue to prosper. In sober truth, we have brought ourselves into a condition in which the very serious diminution of some of our most necessary resources is upon us.

The Problem Before Us.

This nation has, on the continent of North America, three and a half million square miles. What shall we do with it? How can we make ourselves and our children happiest, most vigorous and efficient, and our civilization the highest and most influential, as we use that splendid heritage? Ought not the nation to undertake to answer that question in the spirit of wisdom, prudence and foresight? There is reason to think we are on the verge of doing this very thing. We are on the verge of saying to ourselves: "Let us do the best we can with our natural resources; let us find out what we have, how they can best be used, how they can best be conserved. Above all, let us have clearly in mind the great and fundamental fact that this nation will not end in the year 1950, or a hun-

Continued on page 663.

With the Citrus Growers

SETTING OF ORANGES.

WE cannot tell the experienced grower about the sensations experienced when all the oranges seem to be dropping off of the trees. Those who have been growing this fruit for a few years know that it is not desirable for more than four or five out of every 100 blooms to mature. If they did, the trees would break down even if propped. But with the novice it is quite different. He imagines that all the oranges are gone for sure. However, the last two or three years has seen a dropping in many localities that makes the veteran grower feel creepy and nervous with apprehension. Some of the finest appearing groves have fallen off in production during the last few years. The prop was at one time a necessary adjunct to most groves, but now in recent years they are the exception. Just why this is true is not easily explained, though there are certain examples which might give a clue to some of the elements that enter into the case.

It is difficult to judge what the crop will be till the oranges are at least half grown. Up to this time they are so small that they are largely covered by the leaves, and being of the same shade of green, are difficult to see. No buyer will venture to purchase a crop until the fruit turns yellow so that the amount may be seen. The fruit inside of the trees counts for more than is often appreciated. Very often a grove that shows up an apparently large crop from a distance will not have as much fruit as one that appears to have no more, because it has a larger amount of inside fruit.

Some writers claim that the Washington navel is a weaker orange than one that bears seeds, and this accounts for the heavy dropping of the bloom. This is not a fact, because the Mediterranean sweet is not seedless, and it is one of the heaviest bloomers and also drops as badly and often more than the navel orange. Some advance the theory that cutting the roots during plowing or cultivation at certain times causes the dropping. This will not always hold good, as we have often seen the contrary, though it may contribute to the cause under certain conditions which we do not know about.

It was at one time thought necessary by deciduous fruit growers to do a certain amount of root pruning in order to make the trees grow.

Climatic conditions cannot have everything to do with it, as often adjoining groves will continue to maintain a wide difference in production. It is in all probability due to the treatment of the trees either in cultivation, irrigation or fertilization and, perhaps, when the proper combination of these is worked out, there will be more abundant crops. It is quite noticeable that those groves, as a whole, whose cultivation has allowed the feeding roots to continue as close to the surface as is compatible with proper maintenance of moisture during the summer, have been the heaviest producers, yet there are some striking exceptions to these results. That climatic conditions have not all to do with dropping is quite evident from these facts. One striking case came to our notice a few years ago when Riverside was visited by a long, hard hail storm early in April. It was so severe that some trees had their tender leaves torn, but the young fruit that was just out of the bloom came through all right and a good crop matured.—J. W. Mills.

OVERPRODUCTION.

C. M. Brown of Redlands writing to an eastern paper in reply to a statement that California will soon be producing eighty or ninety thousand cars of crops a year, says:

Your correspondent tells you that there are over eight million bearing orange trees and one and one-third million non-bearing trees, or fully seven bearing orange trees to one non-bearing, and if we now are producing in all 20,000 to 25,000 cars from eight million trees, how are we to produce 88,000 cars from nine and one-third million orange trees when it is a well known fact that a great majority of the orange trees now bearing have been producing for the past two or three years a considerable quantity.

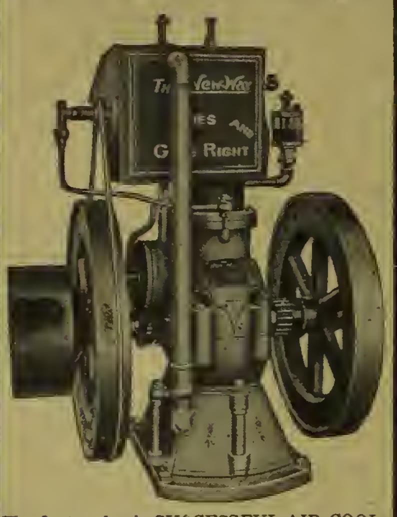
Orange planting came to almost a standstill during the days of the late lamented Agency. Furthermore, your correspondent does not tell you of the thousands of trees that are going out of bearing each year from various causes. Many sections that were planted to orange trees were planted in places not suited to the business, and they did not thrive; the trees are neglected and rapidly going out of bearing. Other sections have found it more profitable to grow alfalfa. Famous old Magnolia avenue is a fair representation, once the pride of every true Californian, and one of the finest orange groves in the world, it is now almost an entire alfalfa field. The tremendous heavy amount of irrigation above this section forced the water almost to the top of the ground along that avenue, and their orchards died out.

In our own town, our little city was started in the heart of the orange orchards and our town has grown so wonderfully that acres and acres of our finest orchards have been cut out for building sites and as a matter of fact in the last four years we have not increased our orange shipments, and while we are continuing to plant we are at the same time cutting out so many of the old trees for building purposes (and this is not the only town that is growing) we do not show the increase that would be expected.

It is always interesting to note how some theorist or some "well posted railroad man" can give you all the information about the output of the California orange crop, and while we sincerely hope it will grow in quantity, there is no prospect whatever of California being able to supply the demand; the demand is growing faster than the production and there is no product from any source whatsoever that has stood the brunt of the recent financial panic like the California orange.

You will understand that this communication is not intended to be a criticism, but what we believe to be facts relative to the situation in California, and is for your own personal information.

Only they are masters among men, and acceptable followers of the great Master, who have first mastered themselves.—Ellis.



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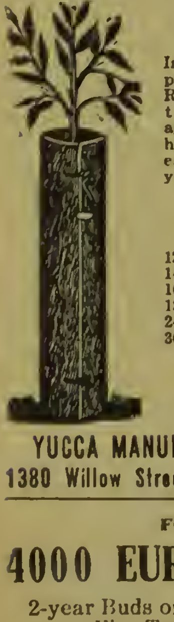

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California Horticulturally

DAMAGE FORM THRIPS.

AS the season advances it is evident that the prune crop of the Santa Clara valley will fail very h below normal. This shortage ue to the destructive work of the ips, an exceedingly minute insect, mall as to be barely visible to the ed eye, yet which has, nevertheless, wrought hundreds of thousands lollars, worth of damage to the growers of one of the chief fruit ions of the State. This pest ats the vital organs of the fruit e it is in blossom and either des those parts or so damages them the resulting fruit is deformed, rfed and worthless. It also ats the fruit when it is first forming he blossom, and while fruit so ated may remain on the tree, and aps ripen, it will be scarred and rmed and unmarketable. So far ective remedy has been found st them. The best means of ing them so far, has been found e along the lines of prevention. insects winter in the ground, a t depth beneath the surface, when are developed and the spring e the sap up the trees they leave ground in countless millions and e their way up the trees to the soms. If the surface of the soil is ed under before they migrate to trees most of them will be buried nd escape and so some protection ded to the trees.

HE NEW STATE INSECTARY.

rk on the new State Insectary at amento is being pushed ahead ily, and within another month it be finished and in operation. The of propagating beneficial insects then be carried on as never be- as the Commission of Horticul- has never had proper facilities his work, and what has been done been accomplished under the most re conditions. The new insect- will be fitted up in the most aped manner for the work in hand, one of the finest and most com- insectaries in the United States. Jeffrey is not a fanatical believer rasites as a panacea for all vege- ailments, but it is evident, from work that he is carrying on that ves them credit for all they are , and that, in spite of rumors ted before his appointment, he t intend to abandon them and pel everybody to fumigate. He is inly preparing for work with ficial insects as it has never been ed on before, and we may look ood results from his efforts.

ER TREE PESTS THIS SEASON.

ct pests of the orchardist and r have not appeared in as de- tive numbers as usual this sea- Aphids have shown up to some t, but their ravages have not as bad as usual. Grasshoppers, antity, have not yet been report- d very many other of our com- insect pests do not appear to be ld as they usually are. It is full for the cutworm visitation, but y these pests begin to be notice- about this time. Fungus dis- too, are not nearly so bad this The peach blight, which has very bad and apparently spread- r the past three years, is doing damage this season, while peach eaf is not common. This is due probably, to climatic conditions. Fungus diseases are worst during warm,. moist weather, such as we usually have in the spring. This spring we have had light rainfalls and dessicating north winds, which have dried up the fungus spores and prevented their germination.

FRUIT PROSPECTS GOOD.

The present season is an extraordinary one for fruit, and with all classes there is an exceptionally heavy crop. In spite of the damage done by the blight, the Sacramento valley will have a very good crop of pears, the largest for several years past. Apricots and peaches are now so far advanced that there is no question as to their yield, which will be the heaviest in years. Active work in thinning is now in progress in the orchards, and the fruit has set so thickly that this operation will be an expensive one this season. In the berry sections the same report is made, the vines are bearing as rarely before. The exception to this is the report from the Santa Clara valley where the thrips have done such destructive work in the prune blossoms, that this crop will be very greatly reduced, and in some sections will be almost a failure.

THE CAMELLIA CITY.

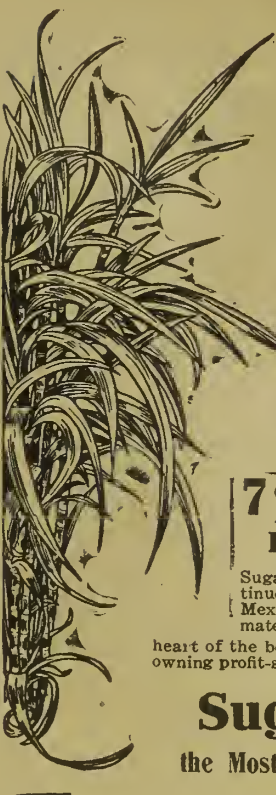
Sacramento, not to be behind her sister California towns, has adopted a fancy or a pet name, and will hereafter be known as the Camellia City, as Santa Rosa is known as the City of Roses, San Jose, the Garden City, Los Angeles, the City of Angels, etc. Certain it is, that the camellia grows in Sacramento as nowhere else in California, if on earth. These plants grow here to be large trees and in the winter are covered with large, waxy, showy blooms of all colors. From Christmas until March, these flowers are the admiration of all visitors and have done so much to give Sacramento her reputation that she does well to adopt the camellia as her civic flower and christen herself the "Camellia City."

FLAX IN THE SACRAMENTO VALLEY.

California has not paid much attention to flax growing in the past, although enough has been produced here to show that it will do well when given proper care. Hemp has been grown on a commercial scale in Butte county and the fiber sent East to market. Of late years, however, little has been done in this line, and the fiber industry has declined to a low ebb. An effort is now being made to get the farmers of Butte county interested in flax, and a San Francisco firm has offered to contract for the product of 5000 acres if it can be secured. The Gridley Chamber of Commerce has taken the matter up and will endeavor to get the industry started in its vicinity.

A HINT FOR BERRY GROWERS.

Berry bushes are now making their rankest growth, and this is the time to prepare them for another season's crop. The wood which is produced this year bears the fruit for next. Therefore, the more of this new wood we get the better the chances for a good crop another season. Now, if the bushes are left to themselves they will throw out long canes, often many feet in length, long, straggling and in the way. By nipping back the tender growth when it has gone far enough, laterals are forced out and the cane becomes a bush, having a large head of new wood for fruiting another season. Go over the berry patches and pinch back all rank growing canes.



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References: Citizen National Bank

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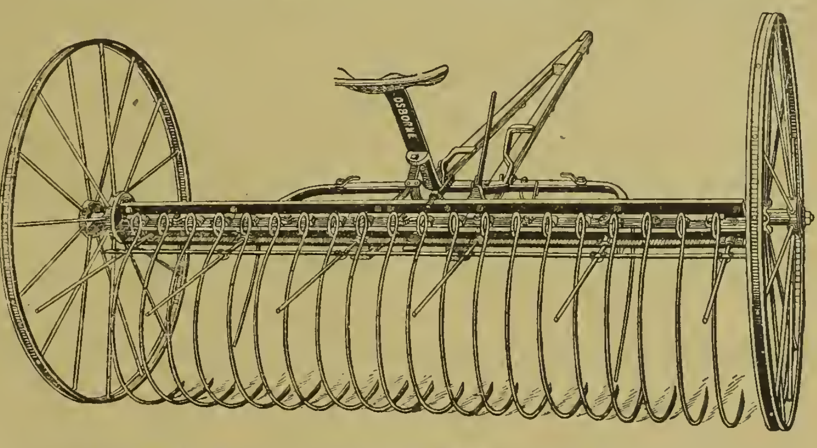

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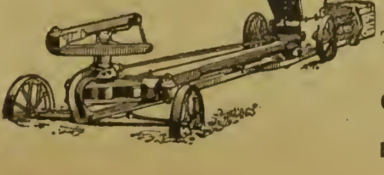

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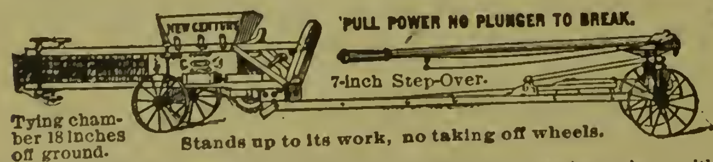
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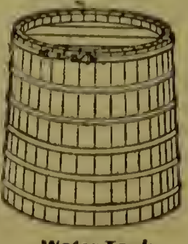

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Tom Lewis, 1916-1918 10th St., Sacramento, Cal.

Sulphured Fruit and the Pur Food Law

By ARTHUR R. BRIGGS

Continued from last week.

The fruit industry was by this amendment still left in a position of uncertainty and in a demoralized condition. Growers held meetings, made appeals to the Department through tne delegation in Congress, and finally to President Roosevelt. Acting with his accustomed promptness the president took steps to create what was denominated a "Referee Board" to which matters connected with the dried fruit industry, theretofore, left with the "Bureau of Chemistry and the Agricultural Department" for determination, were to be submitted.

The Referee Board was constituted by appointment of five eminently scientific men of extensive experience in chemistry and pathology Its personnel is: Dr. Ira Remsen, chairman, president Johns Hopkins University, Baltimore. Prof. Russell H. Chittenden, Yale University, New Haven; Prof. John H. Long, Northwestern University, Chicago; Prof. Alonzo E. Taylor, University of California, Berkeley; Dr. C. A. Harter, Special Inspector of Foods, New York City.

The high character and standing of this Board gives confidence to those engaged in the fruit industry. It is believed the importance of the industry, as it relates to the welfare of the large number of people interested in it, as well as the deleteriousness of dried fruits cured with the use of sulphur, will be carefully and broadly considered. It is felt that the conditions under which "sulphur dioxide" renders dried fruit deleterious, if it is rendered so at all by the present method of drying and handling, will likewise be considered. The hope is entertained that the findings of the Referee Board and its determination, will furnish the Agricultural Department, independent of the Bureau of Chemistry, a basis on which to issue a new decision that will enable fruit growers and fruit dealers to pursue the occupation of drying and distributing fruit in a lawful and satisfactory way.

It is hoped also that the Referee Board in its investigations will come to California during the curing season. By having opportunity to observe climatic conditions, and by following the fruit from the tree to the packing house and until it is ready for distribution, the Board will be better able to decide what is essential to the fruit industry in this State, than if its findings and recommendation are based on purely technical examination.

Following closely on the issuance of Decision 89, at the request of the fruit growers of the State, I went to Washington to get, if possible, a modification of that decision.

As a result of the mission to Washington the following official declaration was obtained in a letter to Hon. Mr. Needham:

"In response to your personal inquiry made this date, when you called upon me in company with Messrs, Arthur R. Briggs and W. H. Brailsford, now here representing the fruit growers in the State of California, in regard to Food Inspection Decision 89, I beg to advise you that in my opinion, it will be impossible for the Referee Board of consulting Scientific experts to arrive at a determination of the question of the wholesomeness or unwholesomeness of sulphur d ide in fruits cured by the ordin sulphur process for a number months. and perhaps for a lor time than that. In any event, and the fruit growers of Califoi may rest assured that no decision verse to the use of sulphur wil promulgated so as to affect the cu or marketing of the 1908 crop.

"The curing and marketing of 1908 crop should be done under terms of Food Inspection Decision and if the terms of that Decision complied with, there will be no ernmental interference with the ing or the marketing of said crop [Signed] James Wilson, secreta

This was the status of the m until April 24th when Congr Needham telegraphed to the S Board of Trade, as follows:

"Sulphur question will not be ta up till one year from next Aug Dr. Taylor has gone to Europe this was agreed upon before he Growers will have two years before any finding is made."

Postponement of a consideratio this matter by the Referee Boa told in Congressman Needham's gram, affords opportunity for a paign of education in respect to fruit interests that may very pr ly be taken advantage of. Fruit ing in California is done under ditions unlike those in other S The fruit is generally larger juicier than that grown elsewhe ripens fast after coming to m and must be handled quickly size of the fruit and its rich juice render it necessary, whe placed on the trays to dry, tha means of arresting oxydizat used. Sulphur, which arrests zation and prevents the fruit turning dark, also assists the p of drying, and has come to be lo on as beneficial as well as effec

What is described as the sulphu cess is probably known to every but even if this is so, it may not b of place to say, the process c in subjecting the undried fruit, freshly cut and placed on trays, to sulphur fumes formed burning raw sulphur in a house or box. The house or filled with trays loaded with fr small quantity of sulphur in a pan is placed on the floor and when the door is closed and the from the burning sulphur pa the fruit and leave the sulphur ide, which is found by chemi amination in the dried produc phur is a sterilizing agent germicide. By its use the germs, if any exist, are made mant or they are destroy fruit is also rendered less attract insects during the process of than it would be if not sulp This is the first process in su ing, and if the fruit is intel handled only a small per cent o phur dioxide remains after the is dried.

The dried product goes then packer. The fruit is purchase packers and dealers throughou district in which they operate, put in merchantable condi them. Taken from the g promiscuously, the fruit is of shades of color, kinds and qu and before it is ready to be ma requires sorting, grading and pa

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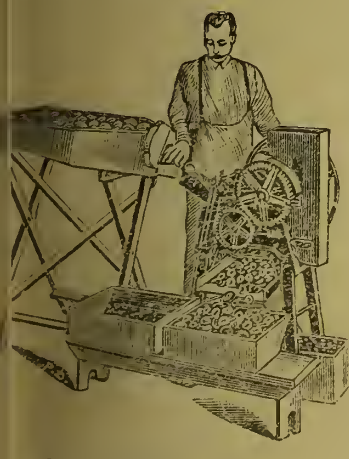

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eat crop in Hamilton is looking

Direct from growers it is mainly unsuited for distribution in either domestic or foreign markets.

In the packing house, before it is put in boxes for distribution to the trade, the fruit is again sulphured. In being prepared for packing it is dipped quickly in hot water, which moistens the surface and softens the fruit, after which it is subjected to the sulphur process. This again prevents a change in color and with the hot water plunge kills any germs there may be in it. This is the process called "resulphuring," and which has led to considerable criticism, chiefly from persons not familiar with the requirements of trade. While dipping and resulphuring adds somewhat to weight, it has little, if any, merit from the point of profit to the packer. This is taken into account in making purchases from growers, so that they really derive the benefit, whatever it is.

If abuses have occasionally crept in under custom of resulphuring, this is not sufficient ground for general condemnation of the use of sulphur in curing or putting up dried fruits for market. No branch of business is entirely free from abuses, and no community is free from wrong doers. The packing of fruit is as legitimate and well conducted as any other branch of commercial business. If excessive use of sulphur has occasionally been resorted to in the dried fruit business, it does not seem necessary to apply a remedy so drastic as to imperil the entire industry. Fruit growers, and dealers generally, recognize the merit of the National Pure Food Law and are ready to uphold it. They, however, want the law wisely and justly interpreted and administered.

Abundant scientific testimony is obtainable to seemingly establish the wholesomeness of dried fruit cured in the manner usual in this State. If examinations by local chemists and pathologists is insufficient there may be added to it testimony of high authority from other States and other countries. Professor Hofman, "Honorary Medical Adviser and Director of the Hygienic Institute of the University of Leipzig," Germany, in the year 1903, in an action brought in Germany to determine whether apricots said to contain a larger percentage of sulphur dioxide than was permitted in that country, testified that "neither in the literature, nor in the practice of physicians, nor in the records of the Royal Medical College, was one single case known or reported, where sulphur dioxide consumed in dried fruits, had caused injury to health."

Against the attitude of Dr. Wiley, of the Bureau of Chemistry, and his opinion, stands the opinions of eminent chemists both in the United States and foreign countries. If there exists a doubt in respect to the effect of sulphur dioxide in fruit dried by the use of sulphur, fruit growers should be entitled to the benefit of it, until the fact is indubitably established, particularly as the custom of drying fruit by the use of sulphur has been almost universally followed in this State for many years without any known injurious results.

But laying aside the matter of opinions and preference, the National Pure Food Law it seems has clearly set forth a conditon under which examinations of dried fruit should be made. The Act of June 30th, 1906, in reference to food, says:

"That when in the preparation of food products for shipment they are preserved by an external application applied in such manner that the preservative is necessarily removed mechanically, or by maceration in water or otherwise, and directions for the removal of said preservative shall be printed on the covering or package, the provisions of this Act shall be construed as applying only when said products are ready for consumption."

It has been fully and satisfactorily demonstrated that by washing, soaking and cooking, the sulphur dioxide contained in dried fruit almost entirely disappears, at least the percentage is very greatly decreased. If ruling 76 had prescribed how tests of fruit should be made, as producers and packers claim was clearly intended, according to the language of the Act, viz.: by examination of the cooked product, "when ready for consumption" no controversy would have arisen and, no doubt, would have been entertained of the intent of the Bureau of Chemistry or of the justice of the Act.

Another feature of Decision 76 open to fair criticism is, that it fixed an arbitrary unit of sulphur dioxide as permissible, viz.: 350 milligrams per kilogram, or thirty-five one-thousandths of one per cent. prior to a determination of the unit of safety, or without attempting so far as any public utterance of the Bureau of Chemistry is concerned, to establish such safety unit. If the unit fixed is made to apply after an examination of the cooked product, it is entirely reasonable and satisfactory. If it is applicable only to the uncooked product it is manifestly too low. The unit of .035 of one per cent appears to reflect a theory rather than a determination on examination and inquiry based on a comprehensive view of conditions incident to actual use of the product as food.

I am satisfied that reference to the Referee Board of the issues involved in the sulphur question, and the action of that Board have the approval of Secretary Wilson, who has exhibited a disposition to protect the fruit industry of this State. Dr. Wiley maintains a defiant attitude. His endeavor seems now to be to demonstrate that sulphur is an unwholesome ingredient and should not be used, because its use produces sulphur dioxide, " an added substance which may render the fruit deleterious." He openly says, it is the fight of his life to maintain the position he has taken in the use of sulphur.

Aside from all scientific consideration, it may not be out of place to consider the sentimental question involved. It is no exaggeration to claim that there is in the disturbance over the use of sulphur, a serious menace to the present prosperity and future development of California, which only those who know our industrial processes intimately and accurately can appreciate. It is, therefore, important that the question now agitating fruit growers should be wisely, speedily and permanently settled. For the crop year 1908 the matter seems to be fixed with reasonable assurance of safety on the part of all concerned, but the interpretation of the National Pure Food Law in its application to California dried fruit products is of vital and very general interest.

Happy the man, and happy he alone,
He who can call today his own,
He who, secure within himself, can say—
"Tomorrow do thy worst, for I have lived
today."
—Dryden.

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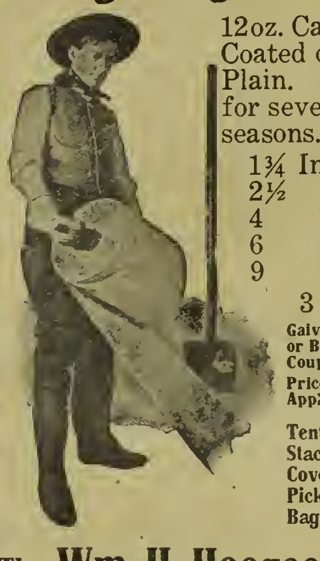

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THIS MONTH.

GLADIOLI are beginning to bloom heavily now and need lots of water. The writer has a large bed which, after blooming time last year, was relieved of its largest bulbs, then the old bed covered heavily with stable manure. Those bulbs, which were left, started early and are now giving magnificent blossoms. Another bulb giving bloom now is one captured in the mountains a couple of years since. It is the Humboldt lily, of which Bailey says: "A noble, dignified, commanding plant, and one which ought to be cultivated oftener." To get this bulb a good half hour's work digging with fingers, sharp sticks and stones was necessary amongst the roots and gravel of a canyon of the Sierras to get it, but the pleasure since has well repaid. The bulb was dug up when in full bloom, so it was hardly expected to live, but it has proved hardy. Now is the time to find them in the mountains.

Chrysanthemums may yet be planted, though it's getting late. Plant cosmos and other fail annuals. Plant bamboo. The Japanese Giant is a fine one to plant, but any bamboo is attractive.

Shasta daisy plants may yet be divided, but should have been done earlier. Give the old plants, which are now blooming heavily lots of water. It takes lots of water to make big flowers.

Rake the lawn often to keep the Bermuda grass from "running" and increasing. Plant new lawn, unless you prefer to start in fall when Bermuda is not so persistent in spreading.

Hoe and cultivate plenty for that is cheaper and better than excessive irrigation.

PETUNIAS.

THE petunia is again coming into favor. Not the single-colored old-fashioned flower of our grandmother days, but a glowing giant, rich in perfume, varied in tint and remarkable for size and shading, says the Indianapolis News.

When one gets the fragrance from a petunia border, it may not be quite pleasant to remember that it receives its name from the Brazilian word "petun," which means tobacco. Petunia is a solanaceous plant native to South America, and we are at liberty to forget that its brothers and sisters are called tobacco, nightshade and red pepper We may love flowers for what they are, as there is no ancestor worship in the floral kingdom, no heroes nor heraldry.

The petunia is one of the best, hardiest and most easily grown of all border plants. It endures heat, cold, drought or wetness with equal facility, constantly producing a wealth of attractive bloom throughout the long blooming season. Many prefer the single flowering for the border or for massing; the effect is gorgeous in the extreme when the single colors are alternated and the giant blossoms, some of them six inches in diameter, go swinging in the breeze. The rich reds remind the beholder of ribbons of flame.

Although a perennial, the petunia is treated as an annual, except in the case of especially choice varieties. Plants raised from seed bloom the first year and are then cast bloom being secured from new annually. In California the plan often topped and then the blooms in favored localities month in the year.

Seed of the large double va produce about 25 per cent of blooms, but many of the ch double varieties are propagated cuttings. In the States east o Rocky Mountains it is well to so tunia seed in autumn to secure blooming, except in places wher ere frosts occur in the spring.

Petunia seeds are very small should be sowed in light soil, ir or boxes and the drainage shou good. Moisten the soil well and it firmly and evenly before sow seed. Those who plant petuna for profit, heat and sift the through fine garden sieves, to fermentation, and to secure th degree of fineness.

A very light covering of should be applied, then watere and lightly, to prevent the see washed into heaps. The pots or should then be covered with g the seeds germinate; the glass be removed gradually until the are one-fourth inch in height. may then be transferred sing pots or boxes, where they wi well until the weather is suit plant them in the open ground seeds are planted, say in Feb they may be allowed to remain seed pans until ready to tra out of doors.

The best soil for growing p in the open border is a m rich, light loam, but, as stated, the petunia will thriv good garden soil. Excessive ing will cause a rank and rap d g of the plant without a corresp result in size and number of b Give the petunias an open, su tion and an occasional wat very dry times and you will be r ed with a harvest of fragrant, blossoms.

Nearly all of the perfume u the world is exported from Italy, near Nice. The value product is about a million and a year. In the surrounding c in the valleys and along the mo sides, are 60,000 acres of flow Every spot a flower can be grow in is under cultivation a plants are carefully attended rigated. The very atmosphere place carries a eau de cologn as the factories are constantly ing the petals of the bitter blossoms from which this perf made. Many kinds of flowers season, but the orange blosso always available. Men, wo children work in the flower which is not an unpleasant tion although the pay is smal.

The tea rose is the exempli and realization of the highest of beauty in flowers. Form, fragrance are here blended so excite wonder and admirat every observer and claim love the devotee of flowers.

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CULTURE OF THE LOGANBERRY.

MR. A. P. ASPINWALL, of Brooks, Oregon, at the recent meeting of the Oregon State Horticultural Society, read a paper on the Loganberry, excerpts from which we have gleaned as follows:

The Loganberry is one of the more recent additions to the berry family, It was originated by Judge J. H. Logan near Santa Cruz, California, and is a hybrid, being the result of crosspollenizing the Aughinbaugh blackberry, a wild variety in California with the Red Antwerp raspberry.

Blackberry-Raspberry.

The Loganberry may, therefore, properly be called the blackberry-raspberry. The vine is long and trailing and the leaves coarse and dark green, resembling the raspberry. The fruit, in the form, size and structure is like the largest sized blackberry. In color it is dark red when fully ripe. Its flavor partakes of both the blackberry and raspberry, being mild vinous and delightful to the taste.

Propagation.

There are several ways of propagating the Loganberry. My practice is to bury the ends of the vines in the fall several inches under ground. During the fall and winter these tip ends strikes root, when during the warm days of spring, they can be cut from the parent vine and transplanted. I very much prefer good, strong tips to transplant a year or more old. A much larger percentage will live and the canes produced from the tips will be stronger.

The cultivation of the Loganberry naturally divides itself into two branches. First, growing them for home use, and second, for commercial purposes.

As a yielder, the Loganberry has no equal. On good soil and with proper cultivation, an acre of the vines will give an average yield of 500 crates, weighing 24 pounds each, or a total of six tons of berries. Under more favorable conditions, eight tons per acre is not an enormous crop.

Location.

Having decided the object and extent of your planting, tbe next step is to select a suitable location. A level tract is preferable to a hillside because of greater ease of cultivation and trellising and less likelihood of deep, rich, dark loam, if you have it. The plants and berries will then reach their maximum growth. A clay subsoil is preferred to one of sandy or gravelly texture because of the added moisture within reach of the roots, while the berries are maturing.

Any good soil with a fair amount of fertility, however, will grow an average crop of berries if properly handled. Good returns are secured from sandy or gravelly loams where there is enough fertility to grow grain crops profitably.

Do not make the mistake of crowding your plants. Give them plenty of room to secure the necessary air, sunlight and soil in which to spread their roots. I prefer to set the plants in rows about eight feet apart each way, making 680 plants per acre. Most of the cultivation can then be done with plow, harrow and team:

The first year the vines will not make much growth and do not interfere materially with their cultivation until about the 1st of August, after which they frequently shoot out 18 or 20 feet or even more before winter.

Trellis.

Build your trellis substantially. Use good, strong cedar posts and set them not over 32 feet apart in the berry rows. Securely fasten to these three or four No. 12 galvanized wires spacing them equal distance apart. Now train each vine separately on the wires. Distribute evenly and see that each wire carries its full share of the weight. If practicable have the trellised rows running north and south. thus the vines are much better protected from the winds and ripen more evenly, as they get both morning and afternoon sunshine.

Pruning.

As a general rule, the Loganberry needs but little pruning. Do not thin out until more than a dozen vines appear on a hill and then remove only the weaker canes. The yield will be larger and quality of fruit improved if the pruning shears are not used too freely. A fair amount of foliage on the vines for shade is an advantage.

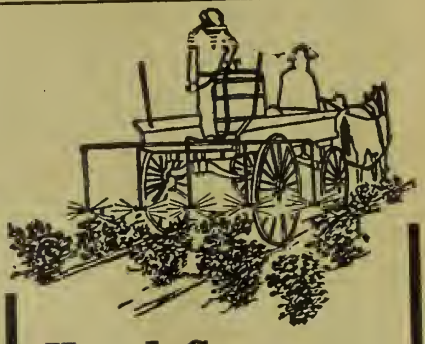
Cultivation should be thorough and frequent, at least until harvest begins. This will add greatly to the health and vigor of the canes, and is of the first importance in the development of a full crop of large, firm berries. As the season advances, see that the harrow is set more shallow with each successive cultivation and followed each time by the clodmasher which will make a dust to hold the moisture. Have a careful trainer go ahead of cultivator to turn in all arms that dangle out from the trellis, to prevent the team from breaking them.

The harvest continues six weeks, during which time the vines should be carefully gone over every alternate day and the ripened berries gathered. Do not allow the fruit to get overripe. It will not handle so well in shipping.

PEANUTS AND POPCORN.

We would like to see more farmer boys giving a little of their time to the growing of peanuts and popcorn for home use. Peanuts do fine under irrigation if planted on a warm, sandy soil. They should be planted as soon as danger of freezing is past, or say along with the planting of melons and corn. Rows from 30 inches to 40 inches apart and drop the kernels one in a place every eight inches covering to a depth of two or three inches. When the vines begin to blossom the runners may be covered with fresh earth to hold them down in good shape so they will take root. The peanuts will set on very well without having any of the vine covered, but should be well hilled up and if slightly covered at the right time the crop will be improved. The soil should be well prepared to give the plants an early start as the guberplant requires a long season of perfect maturity. The culture of popcorn is the same as field corn or sweet corn and if grown in considerable quantity will meet with ready sale at a price which will insure a profit, besides it is a fine thing to have an abundance of these luxuries for home use.—Ranch and Range.

I have known the time when a cucumber barrel was not an uncommon piece of garden furniture. It afforded a convenient and serviceable method of utilizing a small space to an excellent advantage. A headless barrel was set in some handy place about the garden and the soil hilled up five or six inches around the bottom. The barrel was half filled with manure and eight or ten inches of soil placed on top. The cucumber seeds were planted in a circle about a foot away from the barrel. Water, preferably slops or soapsuds, were poured into the barrel occasionally, which, escaping from holes in the bottom and through the manure, was greedily taken up by the roots of the cucumber plants. The crop that can be grown in this way is surprising and I am going to try the scheme this season.—Field and Farm.



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FEEDS.

THE fruit growers rarely grow the feed consumed by their stock. Barley and grain hay, they say, is cheaper to buy than it is for them to grow on high priced lands. I do not believe it is necessary to use exclusively rolled barley and wheat hay for work stock. There are many crops that will give satisfaction and can be grown on small pieces of land. The fruit grower's idea in the main is the good one of never growing anything between the trees or vines. I say the idea that the land needs all its fertility for the fruit is a good one, but often it is stretched too far. A little crop, and the land fertilized afterwards, will often by the very extra cultivation put on for the second crop not be hurt very much. It is a good deal better to overwork the land a little and let the wife have a maid in the kitchen, than to save the land and let undue economy rule in the home. I sometimes think it matters little how much we have to do without if we can keep the edge off the home life. The children should not be made to see the sordid side of life. The economy that is wise covers the bare spots with roses, and never speaks of stinting, but makes even the simplest of foods palatable by careful preparation and neat service.

Prices.

The piece of land set apart for growing fodder must be kept at work in order to produce heavy crops; it must be fertilized and watered and the crops kept growing all the time. There was a time, and that not long ago, when the vineyard and orchard merged into the fields of wheat and barley. When straw was given away to those that would haul it off. Today, barley and wheat hay are hauled long distances often by train, with heavy freight to pay. At present, owing to local conditions, the rolled barley and chicken wheat of Fresno is coming from the Bay counties. Wheat and barley are golden at $34 a ton to old cash customers, and up to $37 to the poor unwary ones that buy on time or owe the merchant for supplies.

Growing Feeds.

When two or three tons of grapes are not worth more than a ton of barley, then the vineyardist must grow the major portion of his own feed, if the ranch is to be handled with regard to expense. In planting grain hay how slovely it often is done. Better reduce the acreage if it cannot be put in properly. It does not pay to put in poor seed and plow it merely with the gang plow with seeders attached. Plow the land when the first rains fall, harrowing at once, then put on a heavy cultivator, one that will stir the land down eight or ten inches. This cultivator will require four or six animals to draw it. Then follow with the seeding. Bald barley 50 pounds; wheat 50 pounds and oats 50 pounds to the acre. First sow the wheat and barley and harrow it in well, then sow oats and brush it in lightly. Now watch the land and if the surface crusts at all after showers, run over it with the straight tooth harrow to loosen the surface. The little grain the harrow will remove is but a trifle compared to the good harrowing does on the grain field. Two or three harrowings may be required before the ground is shaded by the crop. The mixed grains make a better hay for home use, though less saleable than hay from one straight grain.

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Dry Farming.

Dry farming consists in sowing a crop every other year and by cultivating conserve all the moisture possible from two seasons to grow one year's crop. The greatest loss of moisture comes from not keeping the surface broken; if this is done constantly, there are few years in California that the crop cannot be produced every year. The real reason for this form of farming is that the grain man has not enough horses and does not live near enough by to handle the land as a farmer.

Adam.

Dry farming in arid countries is as old as the garden of Eden. When Adam was turned out of that well watered plain he did not have fruits, forbidden or otherwise, to eat. He grew to be a man at once and took to dry farming. It has been found that the warm arid lands were better for health than the moist humid lands. That men were better men when they farmed with brains instead of muscles for they soon made the desert to blossom like the rose.

The use of water has been abused greatly and the need of drainage has come to Fresno county. I will at some other time tell you of the wonderful success of the drainage, by tilling the land, in removing surface alkali.

Corn.

Heat and moisture make corn a staple crop. Like other grasses of the semi-tropics or perhaps the tropics, corn rejoices in the long, hot days. I have been measuring the corn this morning from the pedigreed seed. It stands three and a half feet high, while corn in the same field grown from common seed, planted and grown as nearly like it as possible, is only twenty inches high. The corn plant has a definite life period, and we can only increase its size by keeping it growing all the time. One hundred to 120 days is the time it takes from sowing to husking time.

The corn may be cut and fed green or it may be siloed. On good corn the average individual plant should carry two full ears and a nubbin. The ears may be taken from half the corn plants and yet leave a good quality of silage. This corn is then used for the work horses. It is a little more economical to have it coarse ground or cracked for feed, as the older horses may pass the whole grains undigested.

Silage.

Silage is a quantity food rather than a quality one. The cows need its succulency rather than the grain it contains. The grain may, therefore, be largely removed if it is not thought desirable for them to have any grain. Feeding it, half eared or with half the ears left in, the silage with plenty of good alfalfa hay will carry the majority of cows at full production during the winter months.

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ırvested by simply pulling up ıole plant and letting it cure. ıre handled the same way, only re a winter crop instead of a weather crop. Sweet potatoes ;o excellent feed for cows. Pump- ome in for fall use and will until Christmas time without g from the field. The most nical way to feed them is to up a certain number and turn ıws and pigs in together to eat Those that are desired for eeding are carried in before the ains and put under shelter.— Sherman.

NAVEL ILL.

lying to a query as to a disease navel of young colts, the Farm- 'ribune says:

ır colts are suffering from navel ıich is a form of blood poisoning d by a bacterium that gains en- to the system through the chord at the time of birth. germ or bacterium multiplies in ıasses through the entire system animal. The germs usually af- he joints of the legs, especially stifle, hock, knee and elbow . In some cases the germs ap- to become localized in the liver ther internal organs. Ordinarily or less inflammation and dis- e from the navel accompany disease, which accounts for the chord breaking off in your case having carefully tied it with a g.

ere is practically no medical ment for navel ill. The only to do after infection has taken is to syringe out the navel with a good antiseptic, such as ree or four per cent solution of lic acid. In addition to this give nally one teaspoonful of hyposul- of soda, once a day. Also give tonic one-sixtieth of a grain of hnia three times a day. As be- stated, medical treatment will f little avail. Your colt may re- r but if it does the chances are ill never amount to very much.

ıvel ill is a disease to which we frequently called attention in e columns. Steps must be taken revent the occurrence of this trou- otherwise serious losses may en- The fact that our correspondent had two cases shows that his ı is infected and that it is not safe ıave any more mares foal therein, east not so long as it remains in present condition.

here are two ways of getting rid his disease. One is to thoroughly n and disinfect the barn, and the r is to put the mares in a new, n barn or else let them foal in pasture. The best thing is to oughly clean and disinfect the ı because the germs that cause disease in colts may also, under ain conditions, cause a form of d poisoning in older animals and s are on record where navel ill spread from colts to calves. In oughly cleaning and disinfecting ırn, remove all manure, litter, etc., destroy everything by fire that burn. Brush and wash down all webs; in fact, wash the entire in- of the stable with a five per cent ıtion of carbolic acid and then go over the interior with a whitewash containing five per cent of carbolic acid. Apply the whitewash with a spray pump so as to force it into every crack and crevice, which cannot be done by applying it with a brush in the ordinary manner.

It may be well once more to mention that before whitewashing great care should be taken to remove all particles of dust from the timbers, otherwise the whitewash will not stick and disinfection will consequently be incomplete. See to it that the mangers are thoroughly disinfected and be particularly careful that the walls near the floor as well as the floor itself are thoroughly cleaned and treated with whitewash. A wooden floor should be literally soaked, with a 10 per cent solution of carbolic acid. If the floor is of dirt from six to 10 inches of it should be removed and refilled with new dirt, or better still, cinders or sand. In all cases of infectious diseases, the sanitary value of a cement floor becomes apparent. Cement floors may be objected to on the ground that they are hard and cold, yet this objection, which can be overcome by a liberal use of bedding, does not compare with the sanitary advantages that this kind of floor offers.

After the stable has been thoroughly disinfected the horses themselves should be sprayed with a three per cent solution of carbolic acid. Great care should be taken to thoroughly wash their feet and see to it that the acid solution comes in contact with all parts of their hoofs, especially the frogs. Otherwise they will carry the germs of the disease into the disinfected barn and in a short time the disease will be as prevalent as ever.

Whether the old barn is disinfected or a new one is built it is a good plan always to be present when a mare foals so as to tie and disinfect the navel chord immediately after parturition. Where this can be done the disease rarely causes much loss even in infected barns. The correct way to do this is to tie a string tightly around the chord about one inch from the body and bathe the stump thoroughly with some antiseptic like formaldehyde, taking care not to get it on the skin of the animal. When a colt is born in the open pasture there is seldom any danger from this disease. The pasture, however, is for other reasons not a good place for a colt to be born, hence the best thing is to have everything in the barn in a clean, sanitary condition. It is a good plan to disinfect the stable once or twice a year on general principles.

KICK THE BARN DOOR.

One writer advises his readers not to kick the cow when they get mad, but to go and kick the barn door. A farmer may be considered insane who would kick the barn door, but there is about as much sense and a great deal more benefit to the cow in so doing than to give the cow a sound thrashing for something which she cannot reason out.

BERKSHIRE ASSOCIATION.

The proceedings of the American Berkshire Congress held at Nashville, Tennessee, Feb. 24, 27, is received, and it is full of interest to the breeders of the Berk.

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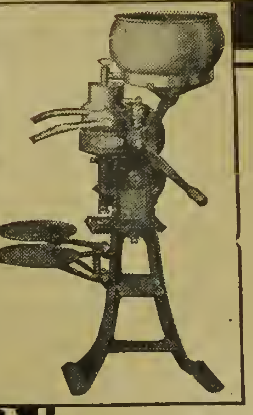

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California Cultivator

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NOT A SPECIALIST.

te often there comes to the Cultivator from its best friends suggestions of changes which it is thought will greatly benefit and advance the interests of the paper. These, of course, are along all lines of development, and all have more or less of value. They are received most gladly and so far as possible acted upon. The more general complaint is, perhaps, along the line of particular departments not being as extensive as they should be. For instance, one day a subscriber from a citrus district will request more attention to be given to the culture of citrus trees, their marketing, and to prices secured. This great industry, which brings from $15,000,000 to $20,000,000 to the State, is well worth the increased space and attention requested.

Another day the raisin grower from Fresno registers his complaint and calls attention to the vast importance of the industry of that section and calls for more matters of interest to raisin growers. The same is true as to hops, as to cantaloupes, as to cherries, apricots and other deciduous fruits. The last, a gentleman from Tulare county who called only today, made an appeal for an especially strong presentation of matters of interest to the stock industry. He truly said the industry is only in its infancy and needs the education and stimulus which a strong stock paper could give to impress its importance and its profitableness upon the people.

California, as no other place in the world, is a country of specialists. The Middlewestern farmer is a type of a vast number of other farmers, possibly for hundreds of miles. In other words, they are general farmers. In California the citrus growers not only specializes on oranges, but often will even confine himself to absolutely one variety. Either the navel, the Valencia, or one variety of lemon. The same is largely true of the prune, the raisin, the hop growers or the poultrymen.

Now, while these industries are each worthy of a special organ to champion its cause, the one factor of financial support of such a paper is seldom sufficient to encourage it to specialize along its own line. Unfortunately, the newspaper man, like the stock grower, orchardist, or vineyardist, produces a newspaper for the financial return there is in it. Hence, until each industry becomes strong enough to support the special paper, the specialist must be content with a department in a general paper. As the support for this paper increases, these departments will be made as strong as possible to meet the demand, and all the time endeavor to stand by the general farming interests of the State in a way which will benefit them all.

Many papers supporting special lines have been started. Many have ceased to be published. The conditions have not seemed to favor that particular line of endeavor.

FRUIT CROPS.

Wishing a general idea of the condition of fruit crops and more particularly of apricots, we have written fruit growers in various parts of the State for information; from the answers we quote a few below:

As far as we can judge from reports sent in by various localities, the apricot crop throughout the State will be large, but as to what the probable prices will be, we are unable to say. If we get any information on this line within the next few days we will be glad to furnish it to you.—California State Board of Trade, A. L. McDonald, secretary.

* * *

There is probably two-thirds of a crop of apricots in this county. Some orchards are well set, others are not. As yet nothing can be said of prices. No buyers have been here that I have heard of. Probably prices will be good, as Lima beans and other products are now quoted at high figures for coming crop.—Wm. H. Cannon, secretary Ventura Chamber of Commerce.

* * *

Apricot crop good in this county, but can't even guess at the amount in tons. Buyers have not as yet made any prices for dried fruit of any kind; no 'cots sold green here. Peach crop good also. Cannery has ben paying $20 per ton for Elbertas, Muirs, Crawfords and Lovells, but have stopped buying at present. Prospect for raisins is fine, but a litle early to tell for sure.—H. G. Stearns, secretary Hanford Board of Trade.

* * *

The crop of peaches and of grapes very good. Apricots a fair crop; prunes a very short one. I have heard of no demand for green fruit, although apricots are turning and in a very few days will be ready for delivery. There is some inquiry for dried fruit; prunes are mentioned at 4 cents for four sizes; raisins 3½ cents; peaches 6 cents; apricots 7 cents. By reason of the insufficiency of rain the past three months, fruit will not have the size it had last year.—John Tuohy, Tulare.

* * *

The past four weeks have been very cold for the time of year, with cold and high winds. The crop of apricots promises to be a large one, but it is as yet too early to express a decided opinion as to the size of the crop, or the prices that growers will probably realize. The buyers are making no offers to speak of as yet, but the opinion in the best informed quarters is that the prices will range from about $15.00 to $20.00 for green and 6 to 6½ cents for cured fruit.—Geo. Robertson, Fresno.

* * *

What information I can get at this date shows a fine crop of 'cots in Orange county. Green 'cots $16 per ton. Cured 'cots 6 to 7 cents per pound. Buyers are not in the field yet with any definite offer.—J. A. Willson, secretary Santa Ana Chamber of Commerce.

* * *

We have a good half crop of apricots in this valley of very good quality, and the prices th being offered on green apricots are from $ $17. There are some offering of that kind These are also the prices that will probabl vail on free peaches, orchard run. Cling pe will most likely bring $25 to $27. Ther some being bought at those prices.—G. H. ters, Pomona.

* * *

Also from the press we note that, as a g thing, 'cots will produce heavily.

At Watsonville: The apricot crop of thi trict promises better than ever before, and present warm weather holds for a few days prove an enormous increase over results fo past several years.

At Chico: "The crop this year is of far rior quality to that produced in past years. chards that have yielded second-class pr will send it to a first-class market this ye

At Sacramento: "'Cots bearing heavily. small fruit will not be marketed."

The total output of the State is estimate 90,000 tons.

CO-OPERATE.

It seems to take a combination of orable circumstances to exasperate the pro and induce him to join with his fellows and his wares to market under conditions which bring him maximum returns. That was tr the orange situation in Southern California 12 or 15 years ago orange growers stood ruin staring him in the face which finally him to join other orange producers and org a co-operative institution, which is today largest and strongest of any of its kind. R men and prune men have likewise faced same proposition and for a time co-operated cessfully. Ultimately those organizations to pieces because of some unfortunate mist

Now, the poultry men of Sonoma county, is the largest poultry producing section, perated by the unfair treatment of commi men of San Francisco, have joined togeth now give promise of working out a satis marketing plan which will prove financia vantageous to all its members. Already co sion men have begun to take notice that ganization has more power than anticipated has accomplished much in securing fair in the larger markets of the State. It loo if this organization had competent manage and we trust all producers will stand as one behind this organization.

Keep the plow and cultivator going if you to keep your orchard in clean tilth. This son's weeds grow fast.

Shop Talk

POULTRY BOOKS—In our issue of April and 30th we gave a list of poultry books could be obtained through the **Cultivator.** to lack of space we have since been unable peat this offer, but judging from the orde ceived, we know they are wanted. The list tained books of great value to all poultry ra and were chosen so as to furnish a book de to any branch of the business. We cann scribe them separately now, but quote the n and prices. They can be ordered alone or the **Cultivator**, but in the latter case we can a reduction which is worth taking advanta Orders may be for either a renewal or a ne scription, but must come direct to the office not through an agent.

Perfected Poultry of America, $2.50. W **Cultivator** one year, $2.50.

Diseases of Poultry, by D. E. Salmon 50 c With **Cultivator** one year, $1.25.

How to Grow Chicks, by T. F. McGraw, cents. With **Cultivator** one year, $1.00.

Money in Squabs, 50 cents. With **Cultiva** one year, $1.25.

Leghorns, 50 cents. With **Cultivator** one y $1.25.

Ducks and Geese, 50 cents. **Cultivator** year $1.25.

Turkeys, 50 cents. With **Cultivator** one $1.25.

Reliable Poultry Remedies, 25 cents. W **Cultivator** one year, $1.00.

Agricultural Notes of the Pacific Coast

Northern California

Gridley is to have a creamery.

Winters is harvesting string beans.

Yuba City will have a heavy berry crop.

Wheatland promises a great hop crop.

Lodi will have a bumper Tokay crop this year.

Sutter county is to have a Swiss cheese factory.

First apricots were shipped out of Winters May 13th.

Interest is being created about Lodi in asparagus culture.

Peach crop is the largest ever known in Healdsburg.

Sonoma County Poultry Association held a picnic on June 6th.

California will produce $10,000,000 worth of sugar this year.

Nevada City farmers are reaping a harvest from coyote scalps.

Santa Rosa cannery has contracted for a large pack of apricots.

All fruits at Vacaville, excepting runes, will be an exceptionally heavy rop.

San Francisco has 20,000 more tons f hay stored than last year same ate.

Marysville grapes are coming on inely with indications of a heavy rop.

Marysville peach growers are hoping or $35 to $40 per green ton for lings.

Department experts are making inestigations about Winters in the soil urvey.

The Santa Rosa cannery is putting p large quantities of Royal Anne berries.

Late frosts did much damage to beres and many deciduous fruits in Pluas county.

Berry growers about Santa Rosa e planning co-operative shipping of eir fruit.

Some vegetables and more tender ants were injured in Sonoma county the late frosts.

Warm wind the last of May did uch damage to grain and other crops the Sacramento valley.

Sheep which have been dipped at avis have been inspected and have en found free from ticks.

There is less than half the number eggs now stored in California that ere were last year same date.

The produce from Marysville and ng the Feather river is now sent to n Francisco by the water route.

ome winter sown barley of Yolo unty is promising with only a half inch of rain after the sowing, a of hay per acre.

t is now estimated that 10,000 cars green fruit will pass through Sacnento this year, and that they will ng to the State at least $10,000,000.

Beet growers near Gridley claim t their sugar beet fields give exptionally heavy crops when planted other products following beat cultiion.

Humboldt county creameries report following prices paid for butterfat the month of May: United creames, 24 cents; Central, 24¾; Pioneer, ½; Riverside, 24½; Grizzley Bluff, ; Capital, 25.

Central California

Tulare county is shipping Valencias to Alaska.

Visalia is giving the good roads movement a boost.

San Joaquin valley new potatoes are being marketed in crates.

Chili peppers are being raised in the Turlock section for the first time.

Hanford claims to have an ideal situation for the production of apples.

The California Fruit Canners' Association uses each year 300,000,000 cans.

It is estimated that 75,000 sacks of potatoes will be produced near Turlock.

The promise is now for excellent prices for the Pajaro valley output of apples.

Sunnyvale Grange recently held a banquet in honor of the grange State Master.

Santa Clara valley is now sending out cherries and apricots in large quantities.

Some beets in Pajaro valley have been destroyed so that replanting was necessary.

Onion producers along the lower San Joaquin are reaping good prices from recent sales.

Porterville has a new tract which is said to be exceptionally well adapted to citrus culture.

The Orchard City Grange crop committee reports the last rain of much value to fruit crops.

The Spreckles Sugar Company has a force of men at work planting eucalyptus trees near King City.

All kinds of grain, especially oats, are looking exceptionally fine between Watsonville and Moss Landing.

Nurserymen, especially those at Fresno, report the past season one of the greatest in the history of the State.

Irrigation development in the Salinas valley has been very pronounced this season, several new plants being installed.

The Foothill Apple Growers' Packing House Company has organized for the purpose of shipping the apples of the members.

W. H. Volck, entomologist of Monterey and Santa Cruz counties, will lecture at the farmers' institute to be held at Davis this fall.

A Tacoma cattle buyer has bought a large bunch of cattle at Merced, shipping during the last month over 3000 head from that one point.

State Board of Health is making a vigorous campaign against the misbranding of fruits, and many fruits which are not labeled true to name are sure to come to grief.

Grain ranchers about Modesto are more and more using the Middlewest method of marketing grain; that is, of cutting with a self binder and then threshing from the shock or stack.

Last week we chronicled the destruction of trees by girdling at Porterville. Now comes Lindsay with a report that an orange grower has had some small trees stolen, being taken away bodily, root and all.

Kings county fruit growers are up in arms over a new contract which they will be asked to sign by the packers. At a meeting last week they entered protest and practically refused to accept the contract.

Southern California

Brawley is asking for a creamery.

Aphis has been a severe pest with melon growers this season.

There are said to be about 22,000 acres of olives in California.

Imperial valley grapes are already being shipped to Los Angeles.

Orange county received about $400,000 from its crop of beans last year.

Orange county's output of walnuts this year will be the largest in its history.

Riverside shipped a total of 4300 cars of oranges and lemons up to June 1st.

Ranchers in the Coachella valley are experimenting quite extensively with ramie.

Spanish peanuts grown in Orange county will command this season from 2½ to 3½ cents.

The melon aphis is not the serious pest in Coachella valley this year that it was last.

Some of the papers of the Imperial valley are protesting against the word "cants" for cantaloupes.

Imperial valley cantaloupes are now ripening very rapidly and shipments are in full swing.

One ranch in Orange county has over 2000 acres of grain which is yielding far better than expected.

An experimental plant of spineless cactus near El Centro is said to be growing at an exceedingly rapid rate.

A Redlands orange grower has invented an orange clipper which is pronounced to be one of the best and safest manufactured.

The cool, moist weather has induced some walnut orchards in the neighborhood of Anaheim to show some indications of blight.

Onion shipments are now going forward at the rate of five carloads a week from Coachella valley. The total for the season will aggregate 125 cars.

The latest from the desert is the effort to bud fruit trees on the wild mesquite, which are scattered all over the Coachella and Imperial valleys.

Coachella valley farmers claim that one acre in that section with abundant water will raise 10 tons of hay per acre, will keep ten hogs or two dairy cows.

The Tustin Packing Company is contemplating of the organization of a lemon association which will build its own packing house fitted for the care of lemons.

Los Angeles County Mutual Fire Association claims to be the best "dollar for dollar" company, and that it has saved the members over $200,000 during the last few years.

The Indio Experiment Station received 83 date palms from Africa last week. There were 21 varieties in the lot. There will be a further shipment of 175 received in a short time.

The million dollar improvement in the Imperial valley irrigation system is now put in the shade by a five million dollar proposition to carry a part of the Colorado river around on the northern rim of the Salton Sea and above sea level to a point near Indio.

The Coast

Rockford, Washington, is to have a new creamery.

Milton, Oregon, observed June 4th as strawberry day.

Colfax, Washington, has a hog weighing 702 pounds.

Even Portland receives several cars of Eastern eggs every week.

Strawberries near Spokane were seriously injured by frosts about the 20th of May.

The Hawaiian Islands are discussing the advisability of extending the forest reserves.

The Spokane State Fair is already pushing its arangements for the coming fall exhibition.

The Co-operative Company is being organized at Mount Pelier, Washington, for a new creamery.

The first strawberries of the season grown at Wenatchee, Washington, were marketed May 21st.

Eight hundred thousand fruit trees have been planted in the neighborhood of Colorado Springs, Colorado.

The creamery at Rosalia is making more than double the amount of butter than it did two months ago.

Hereford cattle breeders have lost an enthusiastic supporter in the death of Gov. John Sparks of Nevada.

Dayton creameries have been embarrassed by a shortage of milk, and five plants have already shut down.

Coast apple growers are jubilant over the biggest apple crop, with comparatively light crop in the East.

A fruit commissioner of Oregon reports that apple conditions are such that there will be a bumper crop this year.

Cow ponies and Western horses were given a test in an endurance race from Wyoming to Denver last week.

Frosty nights during the latter part of May did much damage to peaches, cherries and apricots at La Crosse, Washington.

"Jim Hill" mustard, tar weed and china lettuce are a trio of pests, which are troubling the farmers of Washington.

The Portland rose carnival, which was held last week, is said to have rivaled the famous Japanese cherry blossom procession.

The cold weather of the spring about Pullman has retarded the picking of cherries, which wil be much later than last year.

It has been demonstrated that alfalfa will be grown on many of the peet lands of Eastern Oregon, and its culture is being extended.

The discouragement over the low prices of hops has been somewhat overcome and Oregon hop growers now promise a great crop.

Eastern Oregon grain raisers are already finding that their communities are decreasing in population because of continual grain cropping lowering the fertility of the land.

Desiring a dozen perfect apples to present to Admiral Sperry when that section was visited by the battleships recently, Seattle called for a contest, and Wenatchee succeeded in carrying off the prize, and her dozen apples were presented to the Admiral on a silver plate.

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St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

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This is the Famous Mitchell Strain of S. C. White Leghorns

Laying Hens, $1.00 to $3.00 each; Cockerels, $3.00 to $20.00 each

With every order for hens amounting to $15.00 or over we will give one $3.00 Cockerel as long as the stock of the latter lasts. This offer is good till August 1st only. We are taking orders now.

Carl C. Curtis, Owner, Lincoln Avenue and Ventura St., Pasadena, Cal.

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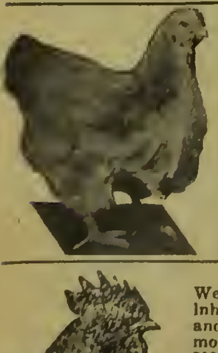

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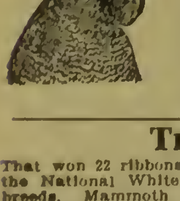


Starbuck's Barred Plymouth Rocks

We trap nest our hens. Why set from poor layers? Bird laying qualities are inherited the same as any other. This year we have discarded all old matings and have gone to the next generation. Cocks have 9 generations of 200 egg mothers. Hens all from 200 egg mothers and from cock with 6 generations of 200 egg mothers, and are laying fine. We have divided into pens according to the way they are showing up in six months laying. $2.50 for 13 eggs from first pen. $1.00 from 2nd. until they have time to make longer records. (Except from our one best, not for sale. We claim the world's Barred Rock, 6 months laying record for this one.) Do you wish to hear about our prize winning Buff Orpingtons and Silver Wyandottes? We have something to crow about. No Sunday sales or visitors. ***Wm. Starbuck & Son. Fullerton***

Trap-Nested White Wyandottes

That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen, contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribbons, all at Los Angeles County Poultry Association Show, December 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah. Hens and Pullets, $15 and $20 per dozen.
MISSION VIEW POULTRY RANCH, MRS. C. D. HUBBARD, SAN FERNANDO, CAL.

When writing advertisers, mention Cultivator.

Profit in the Poultry Yar

We solicit short articles of a practical nature from the fancier and utilit breeder, giving their experience with poultry. All inquiries pertaining to fee management, disease and its prevention will be answered through these column

COST OF PRODUCING EGGS.

THE cost of producing a dozen eggs varies with the locality, character of the stock and treatment.

The cost of producing eggs on a village farm from a small flock fed largely table waste is much less than from a flock where all feed is bought at market rates. Eggs may be produced at small cost on large grain farms where much of the feed is picked up by the hens.

From a series of observations reported by Prof. H. H. Wing of the Cornell Experiment Station on the amount and cost of food consumed and number of eggs produced during the four winter months by a number of flocks of hens in different parts of the State, we learn that in 17 weeks from Dec. 1st to March 29th, 29 flocks representing 10 owners and 5200 fowls, the average daily production of eggs was 22.8 per 100 fowls. During the same period the average cost of one dozen eggs was 18 cents. The flocks that laid the most eggs during December and January also laid the most in March.

The egg production of pullets was notably in excess of that of hens, particularly in the earlier periods when the price of eggs was highest.

The average cost of feeding 100 hens for 17 weeks was $35.33.

The average cost of product exceeded the cost of food by $16.33 per 100 fowls.

The cost varied much with different flocks and varied from six cents to six dollars per dozen. Examination showed that this remarkable difference in cost was not entirely dependent on breed, character of building or kind and quantity of food, although all these factors had an influence.

One cause of this difference seemed to be a difference in the hens themselves; some hens are good layers and some poor layers, just as some cows are good milkers, others poor. Poor cows transmit their poor milking qualities to their progeny. In a like manner we may believe that poor hens do not produce good layers. It is not sufficient that the poultry raiser give attention alone to housing, feeding fighting vermin, etc., but attention must be given to breeding birds that love the laying habit, otherwise time, labor and food may be wasted on birds that will not pay the cost of the food eaten.

THE CHICKEN MITE.

The chicken mite is generally distributed throughout the world wherever chickens are kept. It is especially active in warm countries, consequently those who raise poultry in California and adjacent States find it a very serious pest. If allowed to breed in the houses the stock becomes debilitated, falls off in egg production and readily falls a prey to disease.

The adult is light gray in color; in size about four-hundredths of an inch long; when filled with blood the color is decidedly red. Its habit is to attack the fowl at night, and hide in cracks or the underside of the roosts during the day. The presence of filth or the careless construction of buildings favors the multiplication of pest.

Experiments at the Iowa and M issippi Stations in combating chicken mite have shown that c liness is of prime importance. filth should be cleaned up and cr exposed. Poultry houses should so constructed as to furnish as hiding places as possible.

Painting the nest boxes and un side of the roosts and roost supp with crude oil, has been found a fective method of combating the ages of this pest, but it is neces that the oil be applied every tw three weeks to continue effective pecially during the warmer port of the year.

At the Mississippi Station houses were kept free from mite dusting freely every two weeks lime and sulphur. The Iowa Sta reports the best results with keso emulsion made of one-half poun hard soap dissolved in one gall hot water, let cool and slowly add gallons of kerosene oil thorou stirring. Dilute this mixture ten gallons of boiled water, if water is not soft, and apply w pump and drive the solution in cracks and crevices. The Iowa tion recommends that this applic be made three times in the sam in rapid succession.

Some of the eggs of the mite es this treatment, consequently the plication should be repeated at i vals of about three days for a pe of two weeks.

According to the experience of above station, the method is an pensive one. The material neces for spraying ordinary farm hen ho costs about 45 cents. Possibly i in California, as material is hi

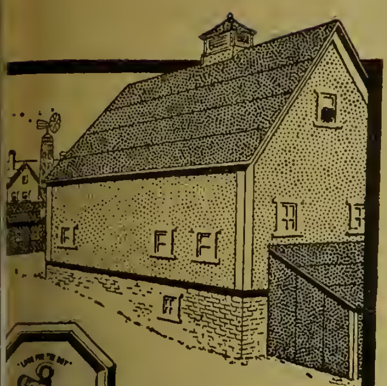
THE BEST BREED.

The selection of a breed is freq ly a puzzling problem to the m woman about to embark in the po business, either on a large or scale, and failing to satisfy hims this point he makes the mista starting with several breeds, h thereby to secure the advantag all the good points of all the b involved. He never does.

There is no best breed. In s ing one should be governed by conditions and the end desired.

If the object is to produce eggs for a market that demands eggs, the White Leghorn or M holds first place. If broilers or roasters are wanted, nothing the White Wyandotte with their development and plump breasts, if there is no objection to a b egg, the White Wyandotte holds rank as an egg producer, prov the strain is one that has been to lay. The Plymouth Rock is a slower to mature, but possibly a hardier bird and so on down the no one breed has all the good po The Orpington may more nearly the needs and desires of one while the Rhode Island Red is breed yielding most pleasure and it to another.

Select a breed and stay w Aim to develop its good point



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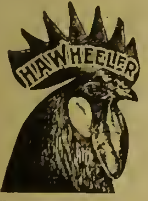

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highest excellence, and thus get the greatest amount of satisfaction and profit from the work.

PROVIDING GREEN FOOD.

Green food in some form is an essential factor in egg production and in development of young stock where irrigation is practiced, green food is easily provided. Nothing is better than alfalfa cut green, but if the supply is limited hens must not be allowed access to the supply, as they will keep it fed so close that it may be killed.

A small patch may be protected by surrounding it with narrow boards and nailing poultry wire over the top. The plants grow through the wire and the chickens feed it off, but the wire protection prevents too close cropping of the plant—try it.

Kale may be planted in the early spring and will furnish a bountiful supply of green food; the lower leaves may be broken off and fed while the plant continues to grow. Swiss chard is another desirable source of green food.

Wheat or barley may be placed in a water tight vessel and allowed to stand 24 hours covered with warm water, then empty into a box that will allow the water to drain off. Sprinkle with water twice daily until the sprouts are one-fourth inch long, then spread in boxes in layers an inch thick; continue the sprinkling until the sprouts are of any desired length; by this method one can secure a very desirable supply of green food, especially for young chicks. Alfalfa meal or alfalfa leaves, if alfalfa hay is used, makes an excellent substitute for green material.

AROUND THE YARDS.

Do not attempt line breeding until you know what you are doing.

* * *

If you keep many breeds you cannot give the necessary time and attention to each one.

* * *

A change of pens, removing a hen from one pen to another, will check laying for a time.

* * *

Never allow anybody to induce you to change the blood of your flock by the introduction of a male bird of another strain, unless you are satisfied that he comes from a strain which equals your own as layers.

* * *

Whites of Eggs Thin.

Can you inform me through your inquiry columns why the whites of my eggs are thin and watery when being fried? Hens are fed on wheat or barley, have plenty of run on the ranch and plenty of oyster shells. Is it for lack of bone? They get fresh meat about once a week. Have 24 hens, White Leghorns and one rooster only. Wishing you prosperity with your paper, which is an instructive and interesting one to me.—A. L., Stevinson.

If your hens are eating freely of green alfalfa, it may influence the consistency of the white of the egg. The whites of very fresh eggs are more thin and watery than those of eggs a few days old. This may be the trouble with yours. I do not think the trouble is due to lack of bone, although you will doubtless find it profitable to feed some bone and meat in connection with the foods you are feeding.

A yearling or two-year-old turkey hen usually proves a better breeder than a young female. Therefore don't sell or market all of the older hens.

FEED YOUR PULLETS

As well as your Laying Hens, on

Coulson's Egg Food

It will bring them to maturity in health and vigor and ensure you lots of eggs in the Fall when prices are high. It can be fed moistened as a mash, or dry in hoppers. Manufactured only by

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It mixes readily with water, forming a milky emulsion, and can be diluted from 50 to 100 times it own bulk, in accordance with the different uses to which it is put.

Thus when you purchase 1 gallon of CRESOLENE you can make up to 100 gallons of the best disinfectant for use with stock, poultry, dogs or as a general disinfectant and insecticide.

This reduces the cost to 1 1-4 cents per gallon which is cheaper than anything else on the market.

PRICES: Quart can, 50c; one-half gallon, 85c; gallon, $1.25.

Freight paid on orders of one gallon or more.

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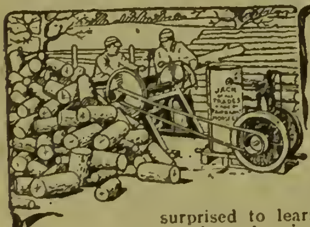

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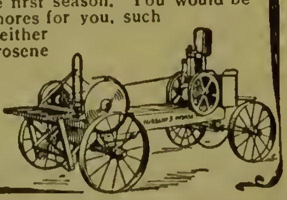

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A GREAT CONSERVATION PROJECT.

THE report of the Inland Waterways Commission contains the outline of one of the greatest engineering undertakings ever proposed; an undertaking which contemplates nothing less than the control of the water flow of all of the rivers of the United States.

This astonishing plan, which was drawn by Chief Hydrographer M. O. Leighton of the United States Geological Survey, provides for the regulation of stream-flow in such a manner as to prevent the present destructive annual floods and at the same time to insure a given minimum navigation depth to each stream during all seasons. It proposes to accomplish this so that it shall pay a reasonable direct interest on the investment while opening a new era of development in the regions affected.

This great achievement is to be brought about by building storage reservoirs near the headquarters of streams, governing the sources of its water supply. These reservoirs are designed to supplement the natural storage of the forests which remain in such watershed regions as the Appalachains and about the headwaters of the Mississippi. Such a plan, if adopted, will change the whole course of river improvement as heretofore carried on by the Government. Dredging and the building of levees would be done away with. Instead the reservoirs would keep back in flood times the waters of the Ohio, the upper Mississippi and Missouri, and the other streams of the great Mississippi system. The water thus held back would lower the stream below danger-mark. Later, when the danger of flood had passed, the stored waters would be discharged, maintaining the navigability of the stream through the dry season.

The cost of such a reservoir system adequate to regulate the streams in the Ohio basin is estimated at $125,000,000. To regulate the whole Mississippi valley in this manner would cost, it is estimated, $500,000,000. Taking as an illustration a single river which has been studied more carefully than some others, it is estimated that the regulation of the Monongahela in this manner would require the erection of eighteen reservoirs. Their effect would be to remove from Pittsburg, so far as the Monongahela is concerned, the present annual menace of flood and to increase the depth of the river through the dry season by five feet.

The money that would be saved from other expenditures and the prevention of damage by flood would more than offset the estimated cost of such a system, but more than that it would bring into the Treasury a direct cash return in the sale of water-power for industrial use.—American Industries for May.

PERMANENT ORGANIZATION OF GOVERNORS.

As has been expected ever since the proposal was made to hold in Washington a conference of the Governors, the meeting at the White House, May 13, 14 and 15, has attracted perhaps the widest and most serious attention of any gathering of public men that has been held in the history of the country. Forty-one governors, their advisers and the representatives of a number of national o
zations faced President Roosev
the famous East Room of the
House when the President call
first session to order on the m
of May 13th; and before the first
session was concluded, the o
had been advanced by a number
State executives present that
this Conference will grow a
nent organization of governor
haps holding sessions annually
ferent parts of the country an
which good results, too broad
measured at this present time,
doubtedly follow.

Owing to his multitudinous
President Roosevelt was unable
side over all of the sessions.
ever, the President called each
to order and occupied the chai
the first paper had been read,
later, relinquishing his position
or another of the governors pre

Many of the State executive
tendance expressed the opinio
this meeting of governors w
doubtedly, result in more
laws for the States on many s
beside that of conservation.
the generally expressed opinic
the White House Conference g
portunity for action along the
securing a uniform divorce la
certed action by the States in
to the extradition of crimina
enactment of child labor la
State pure food laws, and of
ures governing commerce betw
States; and the perfecting of a
nent organization was con
predicted as early as the first
the Conference. Steps have
been taken to bring about suc
manent organization, and a co
of governors has been chosen
mulate necessary plans. It w
ized by the governors that the
the Conference was entirely t
and too completely filled to
just now the formation of a pe
body, but it was the unanimo
ion that within the next six
such an organization will be
ed and in working order, and
final session the initial steps
permanent organization were

STATE FOREST COMMIS

When Governor Folk, of
announced on the second da
White House Conference that
act on returning to his hom
would be to appoint a State
commission, the applause tha
the announcement indicat
plainly the intense interest
been aroused in the questio
eral conservation. In a shor
forcible talk, Governor Folk
that until recently he had
little interested in the idea
conservation; he added, how
since coming to Washington
tening to the statements mad
Conference, he had come to
lively appreciation of the nec
conservation and reforestat
therefore, his first official ac
turning to St. Louis would b
pointment of a State forestry
sion.

Governor Folk's announcem
followed by a similar anno
from Governor Toole, of Mon
the urgent recommendation w
by both of these speakers, a
by many other members of
ference, that a forestry comm
appointed in every State re
in the Conference, which ha
ready such a commission

Bees and Their Care

BE LIBERAL WITH THE BEES.

IT is very essential in beekeeping to be successful, to be liberal with the bees. What we mean is, to get he best results, it certainly pays to ive the bees the best of care with verything needed for their help. It certainly suicidal policy to stint the ees in any way, as liberality with hem in all things will give large reurns. Many in securing hives proure the cheapest hive that they can nd, even when getting the most odern hive.

There is quite a difference in what supplied with the modern hives. s they are now made, they have inrchangeable parts, but most persons ly secure just so much of a hive as ill answer immediate purposes, not oking ahead any for future needs. erhaps 75 per cent or more of the odern hives procured are the No. 1, the one-story and a half and most nerally the eight-frame hive at that.

If for comb honey, one should never ve less than two of the half bodies lding sections; while one half body plenty at first, as soon as the bees t well to work in that half story, other one should be ready and aced on the hive as soon as needed. is very poor policy not to furnish enty of room when needed, as the es cannot store surplus honey when ey have no room to store it, and bedes if they are crowded for room hen a good honey flow is on, they are ost apt to go to swarming, which ops any surplus storing, at least for e present. We have known bees to ore honey outside their hive because ere was no other place to put it, d their keeper did not seem to ow why they did so.

One beekeeper keeping bees in mmon box hives told us some years o that he had a swarm in his yard d that he noticed bees going in a ve placed right close to the hive ey were in; he thought that a new arm had gone in that empty hive. the end of the season when he nt to taking honey he opened this occupied hive, as it was early in e season, and to his surprise he did t find a single bee in this hive and t then discovered that the bees in e old hive had filled this hive with ney and then went back into their hive into winter quarters. He d that he got nearly 10 pounds m the hive they filled with honey.

Now, if plenty of room had been rnished in connection with the hive e bees occupied, they could have ne even better, as they could have rtainly done better in comb build- and storing where they could ve had the entire force to work at rather than in a divided condition they had to do. We have known er cases where the bees would ld and store under the bottom of stand where located.

Now, all this is certainly very poor icy to say the very least. We have o known of cases where bees were nfined to just the bottom story that y wintered in, and no surplus mber at all. The bees after arming, until hardly any were left, course, had nothing else to do, and man thus keeping them wonred why he did not get any honey, l it makes us wonder in all human son why anyone thus doing could pect any honey unless he were exting the bees to deliver the honey gathered, and place it in a jar or box in the cellar. We have also known of more than one case where hives have been placed upside down, and the bees run in the hive thus placed. We have taken several thus placed out and fixed them right, but it is a mean job. We had rather take them out of a log "gum." We use the 10-frame hive and all two stories and have a third story to put on when needed and have tiered them up to even four stories and had them all full.

If running for section or comb honey, perhaps two surplus stories will answer if one will take the honey off when filled, but if the honey is left on longer, it is ripened up better, or is made thicker by the evaporation the bees are able to give it and thus it becomes the most delicious of any sweets. If one is working for extracted, or what is more commonly known as "strained honey," one should always have at least one surplus story, making a three-story hive, and unless one can attend to the bees at the proper time another story will often come in handy and profitable. If extracted honey is well ripened before taken from the combs, it is as good as it can be even if left in the combs. Many do not like extracted honey; the reason mostly is: it is not well ripened before extracting, so it soon is off in flavor and so deteriorates.

We are aware that bee supplies are rather high in price on acount of the very high price of lumber, but because they are high is the best reason for any one to have them in as good shape as possible so as to get the most of the bees. We knew one man who would not secure any supplies until needed, and then he was not able to get them right off. We are sure it would have been worth $50 to him with a $5 investment at the right time.

We hardly think it necessary to caution any one not to be extravagant in their furnishings with the bees and give them more than needed. They should have only needed room at a time, and more added as needed. It is the "big" swarms that give the most surplus and swarm the least, and so pay the best. We endeavor as far as possible to keep our bees from swarming at all and divide for increase after the first honey flow. We had one swarm last season, but increased over one-third and got a reasonable honey crop also. Last season was not a good honey season, yet we got 87½ pounds of honey per colony—about four times as much as the most of the beekeepers around here.

We have told the story before, about how to secure the best results, and may tell it again, but will say now we can only get such good results by being very liberal with our bees and giving them the very best advantage not only in needed room in the hive, but by furnishing them with empty combs to go right to work when the time comes, or full sheets of comb foundation. This not only furnishes straight combs, but is great economy to the bees and also keeps the bees from making drone cells, which when used by the queen, a large lot of drones are reared which are consumers and not producers. If a very large lot of drones are in a hive, they might consume any surplus honey that the rest of the bees can secure; at least they will get a good portion of it. If it pays at all to keep bees in any way, it certainly will pay much the best to keep them the right way. J. W. Rouse, in Coleman's Rural World.

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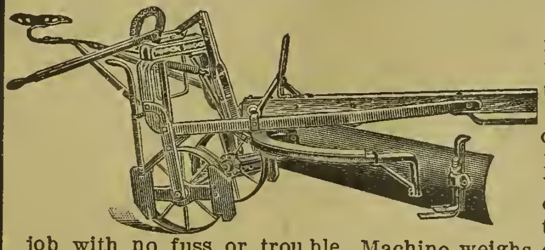

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Made of steel and Malleable iron; strong, stiff and adjustable to every need in road building, land leveling, ditch digging, railroad grading, etc. Our handsome new booklet is free and tells all about the machine with large illustrations. Send now for it and learn how to make good roads cheap. Address

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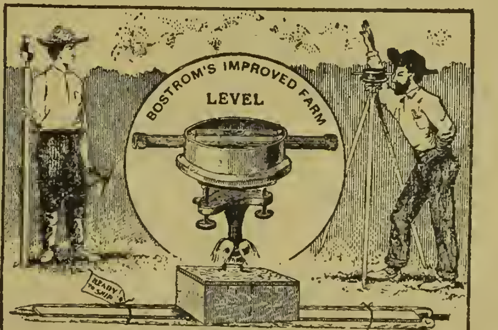

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Do you want to make money? Here is your chance. Get a set or two of our pipe tools, make up a stock of pipe and do contracting of installing irrigating systems. Your neighbors are wanting something to save water and labor. Here it is. Write for our Brown Book. It contains much information for those interested in irrigation.

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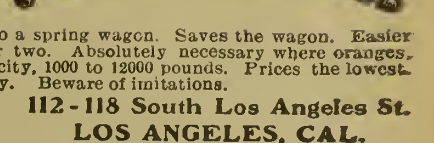
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that is high grade. Made like a carriage spring. Changes any farm wagon instantly into a spring wagon. Saves the wagon. Easier on the driver. Makes one wagon answer for two. Absolutely necessary where oranges, cantaloupes, fruit, etc., are hauled. Any capacity, 1000 to 12000 pounds. Prices the lowest. Illustrated Price List on request. Write today. Beware of imitations.

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112-118 South Los Angeles St.
LOS ANGELES, CAL.

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Pear Leaf Mite.

Inclosed leaf is of a Bartlett pear tree, second year's growth. Same leaf is a fair sample of all others on the tree. I have other pear trees, but only one affected. Will you kindly advise me of what it is and what to do for it. Tree looks healthy otherwise.—Charles Grossholz, Napa.

The sample leaf enclosed is a case of injury caused by the pear leaf blister mite. Early applications of kerosene emulsion or the dusting of the leaves with sulphur have in a good many instances checked further progress of the mite.—H. J. Ramsey, Southern California Pathological Laboratory.

Root Knot.

Please give information as to how to remove olive root knot; also the knot forming at the crown of almonds and apricots.—R. G.

Remove the soil so as to expose the main roots for a distance of a foot from where they branch and chisel out all the diseased tissue. Allow the exposed parts to become dry for a few hours and swab the entire exposed surface with a solution of one pound of blue stone to ten gallons of water. Cover with soil immediately. This will give as much relief as is possible to get. Some of them will develop the knot again. Trees are never as good after they have contracted root-knot as those which have never had it.

Apple Crop.

Would like to know what are the prospects of the apple crop this year throughout the United States, as I am vitally interested in apples.—C. T., Watsonville.

We cannot itemize at this writing, but understand the general eastern crop will be very light. Oregon and Washington will be heavy. By another issue we may be able to give more explicit figures.

Potatoes for Cow.

My cow likes potatoes, and as I have a good many unfit for market and cannot carry them over for seed in this climate, is it advisable to feed them? What quantity should she have per feed?—W. O. S., Coachella.

Certainly, feed them to the cow. They are not a rich food, and if the cow is a heavy producer, she should have a little succulent food to balance up on. Ten to twenty pounds of potatoes a day can be fed with ten pounds of long hay, one to two pounds of corn meal or rolled barley. The potatoes should be fed slowly at first until the cow is accustomed to them. Cut them up to make square edges so that the cow can roll them around and not choke on them.—M. E. S.

Try Tuberculin Test.

I have a five-year-old Jersey cow that seems to be bothered with a cough, but very seldom bothers her except when eating her meals; otherwise, she is in very good health. I feed her alfalfa and oat hay mixed. It seems to be a tickling in her throat while eating and catches her very suddenly.

Kindly let me know through the columns of your valuable paper, as to what the trouble might be from my description and oblige.—J. S., Nordhoff.

We always listen for coughs in tuberculous cows while they are eating. Some never cough except at that time. Test her with tuberculin and if she does not react you may be glad.

Grafting Walnuts.

I have a walnut tree on my place that has been broken off by a runaway horse. Is it too late to graft scions on it and if not, can you tell me where I could procure a half dozen of the resistant to blight kind. I should like to try them on this tree.—H. G. D.

It is too late in the season to practice walnut grafting successfully. Grafts that are placed after the buds start seldom make a growth. Your tree may make sufficient new growth for budding in August or September.

We do not know where resistant buds can be had as all growers who have resistant trees are using them for propagating purposes themselves, but it is very likely many good trees will be found and their location made known this fall.—J. B. N.

Planting Corn, Sunflower, Etc.

Is it too late to plant large field corn, Kaffir corn and sunflower about June [illegible]?—F. J. S., Long Beach.

No. There is plenty of time yet for the development of these varieties this season. But the sooner they are planted the better chance they will have.—Q. A. L.

Cucumbers—Apricots.

My cucumbers turn yellow w about half the size of a lead pe and do not grow. The vines app to be healthy, and so far I have been able to discover any ins working on them. What do you th the trouble is? What is the earl known variety of apricots?—W. S., Coachella.

I have had this trouble some sons when the weather was cool, especially the nights. But the season advanced the trouble appeared and the cucumbers w develop in a normal way. This is only explanation I can give with more data than is given by corresp ent. I do not know the earliest riety of apricots. The Royal is us ly the first to appear in market, our large nurseries may know of lier ones.—Q. A. L.

Pringles and Newcastle are earlier than the Royal. Pringles i little value.

Veterinary

Dr. R. T. Whittlesey, veterinarian 714 East Seventh street, Los Ang will answer questions in this de ment. In writing of sickness or to any animal be explicit in giving s toms and particulars. Always en full name and address, but if assu name or initials are preferred they be used.

If an immediate mail reply is w enclose $1.00 for such service, but fo plies in paper only, no charge is if the answer will be of general inte

Itches.

Will you kindly tell me what t for my horse? She itches a good at least she rubs and bites her appears to be worse when w Have given her condition powders you can give me a remedy will much obliged.—E. G., Stevison.

Use the soap and coal oil emu in several of the late issues of Cultivator. Feed green feed if p ble; if not, feed alfalfa instead of hay. Give one tablespoonful of nesia sulphate in the ground twice daily.

GOOD YIELD AT ELK GROV

I am a patron of your paper, take enough interest to send an of a few returns from the fruit Elk Grove. I came from Illinois years ago and now have 200 acr a very pleasant home. We Elk Grove Tokay grapes to exc quality and quantity. Eighteen yielded 6200 crates which sold at per crate F. O. B. Elk Grove. A acre piece yielded 2860 crates sold at $.99 and another eight piece 3050 crates at $.95. A to culls per acre sold to the win $8.00.

Muscats sold as high as $2. crate and yielded very heavily. lot of 18 acres brought $18.50 pe and yielded eight and one-half per acre. Wine grapes yield f to 10 tons per acre and stand high in sugar.

Last year my four acres of p yielded $673.00, and 65 walnut eight years from the graft, brou $358.00. Almonds bear well four out of five and give a very heavy Alfalfa yields from five to six where irrigated, and is selling year, as it did last season, for $ per ton in the field.

We have a very fine orchard fo home use of oranges, lemons, o cherries, pears, apples and a s acre peach orchard whose crop last year for $2160.00. So we fee we don't have all our eggs in on et and we do have all the luxuri the Easterner would say. We a ciate the California Cultivator much in Elk Grove. E. S. Miller

Makin' ends meet is easy com in keepin' em that way after got em together once

Gem Hay Press

A full circle press, two feeds to each round. The ***most simple power*** possessed by any press, yet strong and certain. ***Plunger stroke is 40 inches; 30-inch actual feed opening*** into the bale chamber. The crank arm is only 9 inches. ***Fewer repairs*** needed for the Gem Press than any other press made. Makes the ***neatest bale.***

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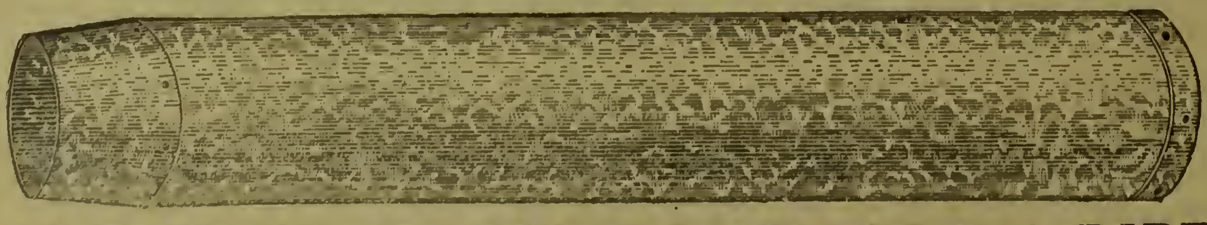

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636-7 Pacific Electric Building **Los Angeles, Cal**

General Agriculture

WHEN TO CUT ALFALFA.

lfalfa should be cut when not
re than one-tenth of the plants
e come in bloom. Cut at this ear-
stage, the yield of hay for the sea-
will be much greater than if the
lfa is cut near maturity, and
ry pound of hay secured will be
th more for feed.
t the Kansas Experiment Station,
trip through a field of alfalfa was
when one-tenth was in bloom, an-
er strip was cut after full bloom
passed. The strip cut early was
rly ready to cut the second time
n that cut after full bloom was
g harvested the first time. The
p cut early grew vigorously
ugh the season. The strip cut
r full bloom gave a low yield the
cutting and did not grow suffi-
tly to yield a good second cutting.
ly cuttings invigorate the plant.
he late cutting of the first crop in-
s the plant more than at any
r time, and we have found it prof-
le to cut alfalfa the first time as
as one-tenth was in bloom, even
gh the weather was bad and we
that the crop would spoil in cur-
The increased yield from suc-
ling cuttings over that cut late
h more than makes up for the
of the first crop.

to Cure.

e leaves of alfalfa contain more
three times as much protein as
stems, a ton of alfalfa leaves con-
ing as much protein as 2800
ds of bran. Protein is the ma-
l in feed necessary for the for-
on of blood, lean meat and milk.
ry effort, then, should be made to
the alfalfa in such a way as to
all the leaves possible. The
od of curing will vary with the
ition of the crop, ground and
ther. When alfalfa has made a
growth, and at the time of cut-
the ground and the weather are
there is no difficulty in curing.
n, under these conditions, it is
to rake within a few hours after
ing, and stack a few hours after
alfalfa has been put in the wind-
s.
hen alfalfa has made a rapid
th, and is rank and succulent,
the weather and ground are damp,
problem of curing is a difficult
It is easy to dry the leaves,
the stems will contain much
ture after the leaves are too dry.
fa hay should become so dry be-
stacking that when a handful of
s are tightly twisted together no
r can be squeezed out. The
practical way to accomplish
and at the same time save the
es, is the plan to adopt, and this
vary with different seasons and
es.
ere is practically no difficulty in
g any but the first crop. When
conditions for curing the first
are unfavorable, we have usually
d the most practicable method to
o cut the alfalfa in the morning,
the dew is off, allow it to barely
in the swath, then rake, and be-
night put in narrow, tall cocks.
r the dew is off the next morning
the surface of the ground has be-
e dry, we open these cocks care-
, so as not to shatter off the
es. If the weather is favorable
hay may be stacked in the after-
; if not, we recock carefully, and
at treatment until the hay is prop-
cured.
me alfalfa growers, in stacking
the first cutting of alfalfa, put alfalfa and dry straw in alternate layers. This is a satisfactory way if the dry material is available. Others use ten to fifteen pounds of salt or air-slacked lime for each ton of hay, sprinkling the salt or lime so as to cover as much of each load as possible. Experiments made indicate that considerably less gains are made by cattle when salt is mixed with the feed. A trial of lime on alfalfa, made at this Station, showed little effect. From all the experience we have gained to date, we advise that the best way to prevent spontaneous combustion of alfalfa is to thoroughly cure before stacking. It is not often that all the conditions necessary to produce spontaneous combustion are present, and ordinarily there is no danger, where reasonable care is taken, except with the first cutting, and with this cutting only when the growth is rank.

PLOWING FOR AND SEEDING ALFALFA.

Great care must be taken in plowing up land to be irrigated so as not to leave elevations and depressions in the fields which will cause difficulty in getting water over the field uniformly and evenly.

The best method I know is to begin in the center of the field and plow to the outside all in one land. This leaves no dead furrows to fill up and only a very short back furrow unless the field be long; and if so, the plow can be set more shallow until the back furrow is made (say two or three rounds.) Then the plow can be set to its uniform depth by turning to the right. With a right-handed plow no ground will be trampled out and made hard on the corners; no dead furrows will be left in the field and a smooth, pulverized field will be the result.

The smoothing harrow should follow the plow closely to prevent the penetration of sun and wind from drying out the soil. To prevent the ground from baking, to pack the soil, to level the surface and to make a perfect seed bed for the small seeds about to be sown, go over the field once or twice more with the smoothing harrow.

After the seed has been sown, go once more over the field with the smoothing harrow to cover the alfalfa seed as shallow as possible.

The first irrigation should be begun when the alfalfa is an inch high and the barley stooled and shading the ground well. If the field is level one way and has a gradual slope in one direction, plow your ditches for irrigation through the field about one hundred feet apart, leaving a space at the lower end of the field not ploughed which will irrigate from the end of ditch. After the barley has been taken off the field irrigate the young alfalfa again and secure a cutting of hay from the new seeding the first year.—Irrigation Agriculturist.

The Northwestern Pacific Railroad, the picturesque route of California, traversing Marin, Sonoma, Mendocino, Lake and Humboldt counties, has ready for distribution, "Vacation, 1908," giving full information in regard to camping spots, mineral springs, resorts and country homes and farms to suit every purse and taste. This book can be obtained by applying at Southern Pacific and Santa Fe ticket office, Los Angeles, Cal.

Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

DOGS.

SABLE AND WHITE COLLIE PUPPIES—Sires, Brandane Wishaw Squire and Glen Fana Bounder, litter brother to Aufield Model. Dams, Ormskirk Gloriana and Presidio Neille. $10 to $25; 2 to 8 months. GLENALPINE KENNELS, Grandville, Cal.

TREES.

FOR SALE—1,500 EUREKA LEMON TREES and 1,000 Washington navel orange trees, true to name. Also street and ornamental trees. Clean, healthy stock only offered. GEO. B. WARNER, SANTA ANA, CAL.

FARM LANDS FOR SALE.

FOR SALE OR EXCHANGE FOR ORANGE or Los Angeles Co. walnut land. Improved or unimproved 140-acre mountain fruit ranch; 20 acres apples and peaches; 15 acres grapes; 2 acres berries; 10 acres drained bottom land; 20 acres hay or corn land. Balance in timber. 10 living springs. 7-room house, 2 barns; 1 mile to school. Postoffice and station. Price, $15,000. WILLIAM RICHARD, Eccles., Santa Cruz Co., Cal.

FOR SALE—1 TO 10-ACRE TRACTS ON CAR line, between Riverside and new cement works; good for chicken ranches, alfalfa or gardening; will sell on easy terms; plenty of water on each tract. C. C. POND & N. R. BELL, Riverside, Cal.

FOR SALE—TWENTY AND FORTY acres, level, good land. Fine for chickens, berries, etc. $30 per acre. Very easy terms. No irrigation required. WM. MANTZ, Santa Maria, Cal.

A NEW IMPERIAL.

An event to take place within the next few months that will prove of the utmost importance and interest to the farmers and homeseekers throughout the United States and Canada, is the opening up for settlers of the valley of the Yaqui river.

This valley lies on the eastern coast of the Gulf of Lower California, about 275 miles south of the boundary line of the United States, and is on the Yaqui river division of the Southern Pacific Railway. The soil and climatic conditions are almost identical with those of the now world famous Imperial valley.

The work of taking the water out of the Yaqui river and distributing it over the 550,000 acres of land that comprise this valley is being rapidly pushed to completion and the owners expect to be able to offer the land to small investors late in the fall or early winter.

Owing to the fact that a great many thousand dollars are needed to complete these developments, it has been decided to offer a few thousand acres in large tracts of not less than 1000 acres each, at a price that will attract both speculators and the more conservative investors. It will be possible for the next 60 days, to buy 1000 acres at $12.50 per acre, and this price will include a permanent water right entitling the owner to use such water as he may require, at the rate of 50 cents per acre foot. O. A. Vickrey & Company, 308 South Hill street, have been appointed sole selling agents. Any further information may be obtained at their offices.

HARNESS FINISH.

To give harness a good finish saturate the leather with as much oil as it will take and then sponge the harness with a thick lather made of castile soap. When dry, wipe gently with flannel and follow in the same manner with a solution of gum tragacanth, which is made by boiling half an ounce of the gum in two quarts of water, boiling down to three pints, stirring freely while it is on the fire. When cool, apply it lightly on the leather.

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

MACHINERY.

FOR SALE AT A BARGAIN—2nd. HAND 10 H. P. Lambert Gas Engine almost new with guarantee. Can be seen at Capito Carriage Co. Repository and factory, 12th and MAIN ST., LOS ANGELES, CAL.

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SAVE MONEY BY USING OUR AUTOmatic Clean Curry Comb, sample 50c, and our Harness Dressing that keeps harness looking like new; sample can 10c. Send us your dealer's name. Agents wanted. CHARles BRYANT, Shreve Building, San Francisco, Cal.

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MEN TO LEARN A TRADE IN FEW months by actual work in shops and on buildings—no toys or books. Plumbing, electricity, bricklaying, etc. Organization of contractors employ graduates. Free picture catalogue. UNION SCHOOL OF TRADES, 120 to 126 E. 9, Los Angeles, Cal.

WANTED—MAN TO WORK ON FARM IN berries and general farm work. Must be active and willing. Also old man to poison gophers and do chores. CHAS. MAHA, Arroyo Grande, Cal.

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FOR SALE—FRESH REGISTERED JERSEY cows and young bulls. Jersey Duroc pigs $5.00 each. Brown Leghorn hens. W. J. COLE, R. F. D. 1, BOX 25, ANAHEIM, CAL.

SWEET POTATOES.

FOR SALE—100,000 YELLOW NANSEMOND sweet potato plants. H. G. ADAMS, 2703 E. 4th. Street, LOS ANGELES, CAL., TELEPHONE BOYLE 38.

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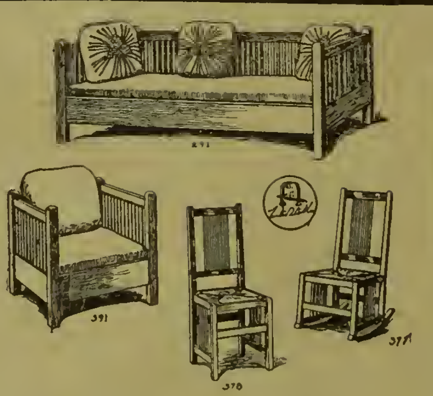

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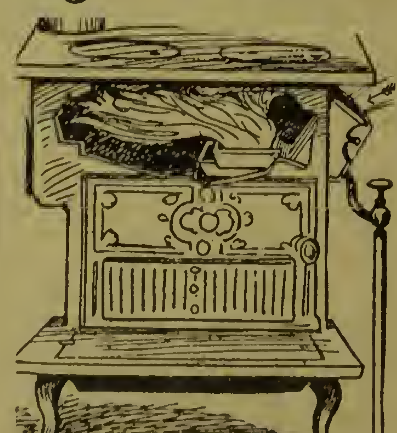
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Hague Domestic Oil Burner Co.
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Household Department

WORTH REPEATING.

"Now in the sunset glow I stand so near
The hills of light that all the past grows clear;
Even griefs transfigured in this softer ray,
Take on new forms and shine above my way.
With dawning triumph in the words I read,
'He taketh from us nothing that we need.' "
—Frances L. Mace.

"The little worries that we meet each day
May be as stumbling-blocks across our way,
Or we may make them stepping-stones to be
Of grace, O Lord, to Thee."
—A. E. Hamilton.

So others shall
Take patience, labor, to their heart and hand,
From thy hand and thy heart and they brave cheer,
And God's grace fructify through thee to all.
The least flower, with a brimming cup, may stand
And share its dewdrops with another near.
—Elizabeth Barrett Browning.

SHE KEPT HIM GUESSING.

THE girl with the big brown eyes and golden hair looked up engagingly. Candor was written large on her face.

"I always mean what I say," she insisted, reproachfully.

The young man sitting beside her in the secluded corner back of the palms tried to elevate his eyebrows in a superior way, but failed.

"That's what you say," he murmured, with the accent on the pronoun. "You're only joking. You couldn't be serious if you tried."

"Now, that is unkind of you, Harry," she said, in a grieved tone. "I'm sure I don't see why you of all persons should talk that way. You don't mean to say you don't believe me when I say things? I never had my word doubted before!"

"That wasn't what I meant," said the young man, uncomfortably.

"I should hope not," said the young woman. "Well, what did you mean?"

The young man lifted one foot and took a palm leaf betwen his fingers. "You know well enough," he replied at last. "Any one to hear you talk would think that you—er—thought lots of me, and you don't at all. You let me make an idiot of myself, and all the time you are having the best sort of time and laughing to yourself! Oh, I can see!"

The young woman sighed and shook her head. "You are so set in your ideas," she murmured. "By the way, do you think that when you asked me to mary you it was a case of your making an idiot of yourself? Because—"

"You catch a fellow up so," he complained. "I never knew anyone like you. All other girls—"

"That you've proposed to?" interrupted the young woman, interestedly.

"Certainly not!" said the young man. "There's no use trying to talk to you because you twist things around so. Maybe you think I don't mean it and that's why you won't be serious!"

"I don't see how I could be any more serious than I am," she said plaintively. "Here I let you take me away off in this corner, when I should be dancing with another man! He'll be so angry!"

"Let him," said the young man, savagely. "Besides, I don't know whether you came with me because you liked to be with me or because I'm such a joke to you. Do you treat everyone this way?"

"Harry," said the young woman, impressively, "I treat nobody as I do you!"

The young man scowled at her a minute and then suspicion arose triumphant. "I don't believe you do," he agreed, bitterly. "I suppose any other man would stand it. I'm easy!"

"If you are going to be hateful," she said sweetly, "you might as well take me back to the others."

"And let Smith have his dance? I guess not!" growled the young man. "I've no doubt you want to get rid of me and—"

She laid her hand on his coat sleeve. "Don't you believe I like you?" she asked.

"I don't know," he said gloomily. "Anyhow, I never knew a girl before who said she liked a man who—who tormented him so?"

"You have had so much experience," she said, shaking her head admiringly. "That's where you have the advantage of me!"

She met his unbelieving glance innocently.

"Humph!" he said at last. "I suppose no one ever paid any attention to you before! Oh, not at all! Besides, you're making game of me. I don't know much about managing girls. I can't seem to strike the right track. I wish I knew how to make you say yes."

"You don't look as if you had been losing sleep or missing meals through your anxiety," she said meditatively. "I don't think it can worry you much!"

"You don't know!" said the young man darkly. "I never cared as much about anyone before. I think about you all the time and you don't care whether I'm around or not!"

"Harry," said the young woman, "believe me, you are the chief joy of my life! I wouldn't miss having these little chats with you for anything! They are so—so revivifying! Really, I'm very fond of you!"

"Do you mean it?" asked the young man, with a struggling hope.

"Of course I do," said the young woman.

In the depths of her eyes he caught an instant's flash of an imp of mischief.

"Oh, pshaw!" he growled, getting up and walking back and forth. "You don't mean anything you say! Not a word!"

"It's so hard not to have you believe me," she said with pretty sadness as they left the corner, "when I am so much in earnest!"

"The deuce you are!" said the young man, hopelessly.—Chicago Daily News.

AN AUTOGRAPH COOK BOOK

A gift suitable to any time of the year, original, home made, one that will bring joy to any housewife's heart, is described in the April Woman's Home Companion. Have you ever thought of making an autograph cook book? It only requires a little care and patience to have a cook book filled full of original recipes of dishes fit for a king.

First, make a list of your intimate friends. Those noted for their good cooking and housewifely virtues of course should head the list. W

ch of them a personal note, ask-
iem to write out and send to you
favorite recipe. In each note
a stamped enevlope with a sheet
per of uniform size for the writ-
ecipe. Then wait.
sently in will come whole flocks
ite envelopes, each enclosing the
which is the particular pride of
articular housewife who donates
nd before long what a collection
ill have. When all the names
been accounted for, you must
work and bind the sheets into
k. Vellum makes a good cover,
a more serviceable one is de-
ooze leather, purchased at a
r shop, may be used. Red
r, lettered in gold or black,
well, and the initials of the
recipient should be added in one
. Just see what delight this
ill bring, and you will, I am
eel amply repaid.

NG PORK FOR HOME USE.

ve recently abandoned the use
pork barrel and now use for
og for a home supply of pork
lard tubs, which I obtain for 10
each. In one is put the hams
ny other parts wanted for pick-
nd smoking. In another, lean
and those adapted to bean cook-
e put, and the frying pork in
ier. A decided advantage found
is plan is the saving of trouble
g able to get at just the piece
without the necessity of hand-
er so much meat.
, as to the quantity of salt re-
I have found too much salt can
y be used. By keeping in a
lace, constantly under strong
the quality will be all that can
ed for. — M. Campbell in the
armer.

A NEW TOASTER.

may not be original or new,
so useful that I give it.
ne likes burnt toast, yet those
se gas, gasoline or blue-flame
ges know that it is very diffi-
toast bread over the flame of
without scorching the slices to
I took wire mosquito netting,
ten inches wide and thirty
long, and doubled both ends
so as to have three thicknesses
es square, pounding down the
o make the folds lie close. I
t it over the gas stove burner,
all the paint off, and had a
toaster.
e it, light the gas and lay the
on the blaze. The flame does
ie through, but spreads out
kes the toaster redhot, like
coals. It will last a long

is best toasted if dried a
each side before holding it
hot wire.

ING WHITE-CANVAS SHOES

a clean cloth dipped in alco-
nove the grass stains. Then,
e shoes are dry, rub magnesia
hly into the muddy spots and
laces, leaving it on for an hour
hen brush it all out and all of
will come with it. Magnesia
also used very effectively to
e hem of white skirts that do
w any signs of dirt except
ge.

URIOSITY APPEASED.

ice you are remarkably bald,"
d the inquisitive passenger.
ask how you lost your hair?"
t it by doing too much but-
o other people's affairs," an-
the other passenger.—Chicago

RECIPES.

Potato Custard.

Boil and mash 6 large potatoes; add 2 well-beaten eggs, butter, pepper, salt and 1 cupful of milk (heated); beat until very smooth and light; add a little sugar and a dash of nutmeg. Lightly fill greased cups and bake a delicate brown.

Paper labels pasted on tin cans seldom remain long and cause great annoyance by dropping off. Get a small roll of surgeon's plaster to use for these labels and they will not come off. Washing soda is one of the cheapest and best kitchen helps. Use it to boil out the tea and coffee pots, dishtowels, in the boiler on washdays, and in washing all greasy utensils. Clean out all soot and ashes from under the top and the oven of the kitchen stove at least once a week, and it will always "draw" well and bake well.

Dried fruit should be put away in large cheese cloth sacks in a dry, airy room where it can be spread out, to keep it dry and from molding, as it surely will do if packed away in a small sack in a close drawer or dark corner of the pantry or store room.

Sulphur, which may be kept in tiny bags for the purpose, will drive away red ants.

Stop doors from creaking by oiling the hinges, or rubbing the edges with soap.

Put a teaspoon of salt into the lamps when filling them and they will give a better light.

Toughen new brooms by soaking them an hour in hot water, using a half cup of salt in the pail of water.

Paint can be removed with benzine, turpentine or gasoline when fresh, but these are of little use after the paint dries, when chloroform will remove some kinds.

HOMELY HINTS.

Strong sage tea with a little alum dissolved in it is an excellent gargle for a sore throat.

If you find a tiny break in the hot water bag, don't throw it away. Apply several coats of liquid court plaster and let each coat dry before applying the next. This will extend the usefulness of the bag, as court plaster is water proof and hot water will not melt it.

A teaspoonful of vinegar added to each pint of home made syrup will prevent it from candying after it stands. A teaspoonful of vinegar added to boiled frosting will keep it from being brittle and breaking when cut and will be moist for a long time.

Ugly marks caused by slits or cracked places on furniture are easily filled in with beeswax and the mark is never detected. In fact, this is the way furniture dealers cover such blemishes. First slightly soften the beeswax until it is like putty, then press firmly into the cracks and smooth evenly with a thin knife. Sand paper over the surrounding wood and work the dust into the cracks and smooth evenly with a thin knife. Sand paper over the surrounding wood and work the dust into the beeswax. This gives a wood finish or color and when the furniture is varnished the blemishes cannot be detected. It is better than putty, since putty soon dries, crumbles and falls out while beeswax remains forever just where it is placed.

Do we want to be strong? —we must work. To be happy?—we must be kind. To be wise?—we must look and think.—Ruskin.

Plan for Summer Comfort

Don't add the heat of a kitchen fire to the sufficient discomfort of hot weather.

Use a New Perfection Wick Blue Flame Oil Cook-Stove and cook in comfort.

With a "New Perfection" Oil Stove the preparation of daily meals, or the big weekly "baking," is done without raising the temperature perceptibly above that of any other room in the house.

If you once have experience with the

NEW PERFECTION
Wick Blue Flame Oil Cook-Stove

you will be amazed at the restful way in which it enables you to do work that has heretofore overheated the kitchen and yourself.

The "New Perfection" Stove is ideal for summer use. Made in three sizes and all warranted. If not at your dealer's, write our nearest agency.

The Rayo Lamp gives perfect combustion whether high or low—is therefore free from disagreeable odor and cannot smoke. Safe, convenient, ornamental—the ideal light. If not at your dealer's, write our nearest agency.

STANDARD OIL COMPANY
(INCORPORATED)

$16.30 buys this handsome six-hole Nickle-Trimmed Cast Range direct from the Manufacturer

without high shelf. With high shelf, just as shown in the cut, $19.97; large oven, six cooking holes, best quality of iron. Burns coal or wood. Handsome nickel trimmings. OUR TERMS are the most liberal ever made. You can pay after you receive the range. You can take it into your own home and use it 30 days. If you don't find it exactly as represented, the biggest bargain you ever saw, you won't have to keep it.

Write today for our beautifully illustrated Stove Catalogue No. 101-C. A postal card will do it. Don't buy until you get it.

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443 Pine St. San Francisco, Cal.

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TOURING CAR, 35 H. P., 4 cyl., $2150
GENTLEMAN'S ROADSTER, - $2150

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Agents Wanted Where Not Represented

A. W. GUMP AUTO CO.
1118 S. Main St., Los Angeles

The Produce Markets

Los Angeles Markets

LOS ANGELES, June 10, 1908.

Butter advanced 2½ cents early in the week and now stands at 50 cents. Market is remarkably strong at the advance. Much stock is going into storage and will continue to do so at such price, for it will prove profitable at that price. Actual selling price to trade is even in advance of quotations 2½ cents.

Creamery ex per roll	50
Firsts	47½
Dairy	25
Cooking	20
"Butterine"	15@20
Eastern extras	50

Cheese.

Southern California	15
Northern fresh	14@15
Eastern singles	15
Longhorn	16@17
Cheddars	17
Imported Swiss	30
Swiss	18
Oregon	18
Limburger	17½

Eggs and Poultry.

Eggs are coming in more slowly and advanced slightly though the higher price prevents consumption so that price will advance slowly.

Eggs local candled	24
Eggs case count	21
Firsts fresh	23
Eastern fresh	19@19½
Storage Eastern	19½@20
Hens per lb	10@11
Young roosters per lb	17
Fryers	18
Broilers per lb	18@20
Roasters	16@18
Old Roosters	7
Turkeys	18@20
Geese	11
Ducks	11@12
Squabs	1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds	6¼ @6½
Prime steers	4¼@4½
Heifers	3½@4
Calves per lb	4½@5
Sheep ewes per head	4.25
Lambs per head	3.00@3.25
Wetners	4.75

Potatoes.

Highlands	1.25
Early Rose	1.70@2.25
Burbanks	1.40@1.50
Salinas	1.25@1.50
Sweet potatoes per sack	3.75@4.00
Sweet white	3.00
Oregons	1.60
White Rose	1.40@1.50
New potatoes by lb	1½
Lompoc	1.50@1.60

Onions.

Bermudas per 100	1.75@1.90
Bermuda per crate	1.25@1.30
Silverskins new	1.25@1.50
Crystal wax per crate	1.25
Northern Red	1.10@1.25
Garlic	7

Vegetables.

Artichoke per box	50
Asparagus per lb	8@8½
Asparagus green per box	1.50@2.00
Beets per doz	25
Bell peppers per lb	10@12
Beans limas per lb	10@12
Beans green	3½@4
Cabbage sack	30@40
Cabbage red per lb	2
Celery per doz	60@75
Celery Golden Heart	60
Corn per doz	45
Chili peppers per lb	7@8
Cucumbers per doz	85@1.25
Cauliflower	60
Carrots per doz	25@30
Egg plant lb	5@7
Green onions doz bunches	20@30
Horseradish	9@10
Lettuce per crate	60@75
Mint per box	40
Okra	25
Peas sugar per lb	4@5
Parsley	30
Parsnips	35@40
Rhubarb per box	50@1.00
Rhubarb northern	1.50
Radishes per doz	15@20
New summer squash per box	85
Summer squash per lb	1½@2
Salsify	15@20
Spinach per doz	15@17½
Turnips doz bunches	40@60
Tomatoes per box	75@1.25

Citrus Fruits.

Navels fy	2.50@2.75
Navels ch	1.25@2.00
Valencias	2.50@3.00
Tangerines	2.00
Culls	40@80
Grapefruit seedless	2.75@3.00
Grapefruit seedlings	1.50@1.75
Lemons fancy	1.00@1.25
Lemons choice	75@1.00
Limes 15-lb box	75

Fresh Fruits.

Apricots per lug box	1.00@1.25
Bellefleurs	2.00@2.25
Baldwins	1.50@1.75
Greenings	2.25@2.75
Pippins 4-tier	1.50@1.75
W W Pearmains	2.00@2.30
Colorado Jonathans	3.00
Cal Ben Davis	1.75@2.00
Cantaloupes std	3.50@4.00
Cantaloupe ponies	3.00@3.25
Cantaloupes specials	75@90
Cherries	65@75
Cherries black per lb	6@7
Royal Annes	75@80
Currants per box	1.90
Dewberries	4
Figs 8 lb box	1.25@1.50
Plums per box	1.50
Peaches per lub box	1.00@1.25
Raspberries	4@5
Strawberries	2@4
Extra fancy	10
Blackberries	2@3
Loganberries	3@4
Gooseberries	10@12½
Watermelons per lb	2@2½

Dried Fruits.

Apricots	12@14
Evap. apples fy per lb	7
Figs loose white	5
Figs blk	4
Peaches	10
Pears	12½
Nectarines	14
Prunes	4@4½

Beans Dried.

Limas per ctl	5.00@5.50
Pink No 1	3.75
Lady Washington	4.50@4.75
Small white	4.80
Black Eyes	3.80@4.00
Garvanzas	4.80@5.00
Lentils	9@10
Bayou	3.90@4.00

Nuts.

Almonds per lb	15@17½
Pecans polished	16@17
Peanuts Virginia	8½
Peanuts California	8½
Walnuts No 1 SS	14

Honey.

Extracted Water White	7¼@7½
Extracted white	7
Comb W W	16
Comb light amber	12½@14

Hay.

Price paid to producers f. o. b. Los Angeles are as follows:

Barley No 1	15.50@16.00
Barley No 2	11.00@15.00
Alfalfa northern per ton	12.00@13.00
Alfalfa local	12.50@14.00
Plain oat No 1	15.00@17.00
Wheat No. 1	15.00@16.00
Wheat No. 2	11.00@12.00

Grain.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl	1.90
Wheat in 100-lb sacks	1.95
Kaffir corn	1.80
Barley	1.55
Corn Eastern sacked	1.90
White oats	1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn	1.95
Shorts	1.80
Bran	1.65
Oil cake meal	2.50
Feed meal	2.00
Rolled barley	1.70

OUT WEST MAGAZINE.

A magazine of the old Pacific and the new, which has for years proclaimed that "the Nation back of us, the world in front" is the situation of the Pacific Coast. It is a product of the West which the West should be proud of and should give most hearty support. It is edited by Chas. F. Lummis and Chas. A. Moody. W. S. Dinsmore is treasurer and business manager.

This magazine is invariably filled with fiction with a local color and illustrations and descriptive articles of scenery and conditions in the West, and especially in California. The pungent writings of Mr. Lummis are always readable and always read. Disagree with him as one often will, yet there is that in his writing which calls one back.

The subscription price is $2.00 per year. It should be in every home.

San Francisco Markets

SAN FRANCISCO, June 9, 1908.

Butter.

Butter is meeting with brisk demand and has advanced a cent during the week. A cent in advance of quotations is often asked.

California extras per lb	24
California firsts	23
California seconds	22
Fresh packing stock	21
Fresh packing stock No 2	20½

Cheese.

California young American fy	13½
Firsts	13
California flats fy	11½
Firsts	11
Young America fy	14½
Eastern fy	16
Oregon fancy	13

Eggs and Poultry.

The shortage in eggs is becoming more pronounced and price is almost dailly marked up. A 2-cent advance was made during the week. Asking price is often a cent in above of the below quotations.

Fresh ranch eggs	24
Eggs firsts per doz	22½
Eggs second per doz	19
Eggs thirds	18
Eastern seconds	17
Hens per doz	5.00@6.50
Hens extra	6.50@7.50
Young roosters	7.50@8.50
Old roosters	3.50@4.50
Fryers per doz	6.00@7.00
Broilers per doz	3.00@4.00
Geese per pair	1.75@2.00
Goslings per pair	2.00@2.50
Ducks young	4.00@5.00
Turkeys per lb	14@16
Pigeons	1.35@1.50

Live Stock.

Steers No 1	4
Do second quality	3½
No 1 cows and heifers	6½@7
Hogs 80 to 200 lbs	6@6¼
Hogs 200 to 300 lbs	5¾
Calves per lb	3½@4½
Lambs spring	5@5½
Wethers No 1	4½
Ewes No 1	4
Shorn sheep	½ cent less

Potatoes.

The frosts combined with heavy seed demand is boosting prices on potatoes. Market is very firm.

Oregon Burbanks	1.25@1.35
Sweets per crate	2.50@3.00
New potatoes per ctl	1.00@1.50

Vegetables.

Asparagus per lb	2@6
Bell peppers	25
Celery per doz	35@50
Cucumbers per doz	30@75
Chili peppers per lb	8@15
Corn per doz	25@30
Egg plant per lb	5@6
Green peas per sack	1.25@2.25
Squash per box	60@70
Onions green per box	45@50
Rhubarb per box	75@1.00
Tomatoes	75@1.00
String beans	7@8
Wax beans	3@8
Garlic new	4@5

Onions.

Oregon yellow	3.50@4.00
Eastern red	90@1.10
Bermudas per crate	50@75
Australian Brown	3.25@3.50
Red	90@1.00
Silverskins	1.00@1.10

Citrus Fruits.

Navels fy	2.50@3.75
Navels ch	1.90@2.10
Valencias fancy	3.50@3.75
Grapefruit seedless	3.50@4.00
Grapefruit seedlings	1.75@2.25
Tangerines	1.50@2.00
Lemons	2.75@3.00
Limes	5.00@5.50

Fresh Fruits.

Newtons	1.65@2.00
Spitzenberg	1.75@2.00
New green per box	60@75
Apricots per box	50@60
Blackberries per crate	1.25@1.50
Blackberries per chest	8.00@10.00
Cherries white per drawer	35@60
Cherries Royal Annes	40@50
Cherries bulk	2½@4
Currants per chest	5.50@8.00
Figs per crate	1.75@2.00
Gooseberries per chest	1.00
Gooseberries per lb	3@7
Loganberries per crate	90@1.50
Logans per chest	5.00@6.00
Melons specials	75@1.25
Melons ponies	1.75@2.50
Melons st	3.25
Plums per box	25@50
Peaches per box	75@90
Aligator pears per doz	7.00@9.00
Raspberries per crate	1.50@1.75
Raspberries per chest	11.00@14.00
Strawberries per ½ crate	1.00
Longworths per chest	8.00@9.00

Dried Fruits.

1908 crop of prunes is being contracted for at 4c basis.

New crop contracts for apricots lb. standard, 7 @ 7¼; choice, 7½ @ fancy, 8@9.

Peaches standard, 6@6½c; choi 7@7½; fancy, 7¾@8.

Apples (evap.)	5
Apricots per lb	8
Figs white	2¼@
Nectarines	10
Plums pitted	12
Peaches	
Pears	5½
Prunes 4-size bag basis	2¾@

Beans Dried.

Limas	5.00@
Pink	3.25@
Small white	4.35@
Large white	4.35@
Lady Washington	3.45@
Black eyes	3.25@
Red kidneys	2.75@
Garvanzas	2.25@2
Bayo	3.10@
Horse beans	2.25@

Hops.

Hops per lb	3½@
Hops old fancy	1

Honey.

Clear white comb	16
Amber	12
Extracted	7½
Beeswax No 1 per lb	26
Beeswax No. 2 per lb	23

Hay.

Somers & Co. say:

Shipments of hay to market c tinue to decrease in quantity, the tal for the week ending today s ing 2640 tons in comparison with last week and 3410 for the week ceeding that. The lessening in ments has been occasioned princip by the holders of old hay who been dissatisfied with the market who have temporarily withdra hoping for better prices in the future. We can see nothing that restore the old range of prices some time to come and we incli the idea that within 30 days from we will see a still lower range prices than that quoted today. prevailing high prices for the year or two have driven consider business from San Francisco. It just been reported to us that the ernment has just purchased 5500 of hay in Seattle for shipment to nila because of the prevailing lo prices there than here.

New hay is arriving, but sparin and as the market for same has yet been well established, we are quoting. In two or three weeks' it will probably be possible to about what figures will obtain for new crop during the harvest se Very little will be bought in the Francisco market unless the rang on a moderate basis.

Choice wheat hay	16.00@
Good wheat hay	13.50@
Other grades same	11.50@
Wheat and oat	12.00@
Tame oat	11.50@
Wild oat	10.00@
Stock hay	8.00 to
Alfalfa	9.00@
Straw, per bale	5

Grain.

Wheat No 1	1.62½
Barley No 1	1.37½@1
Corn small yellow	1.75@
Oats white	1.55
Oats gray	1.52½

Feed Stuff.

Bran per ton	32.00
Feed cornmeal per ton	39.00
Cracked corn per ton	40.00
Rolled barley per ton	31.00
Oil cake meal per ton	38.00
Cocoanut cakes per ton	28.00
Middlings	34.0

Citrus Market

LOS ANGELES, June 10,

The last end of seeds, sweets Mikes are appearing and the in ent quality is affecting the p slightly, and off quality good not commanding any long prices. lencias are satisfactory and the p ise is for fair return for the sea output. The prices will probably equal those of last year.

Shipments.

To date this season since Nov. 1 159 cars, of which 2933 were len To same date last season 22,59 which 2181 were lemons.

NEW YORK, June 8.—Eleven vels, four St. Michaels, four m four seeds, four Mediterranean Sw sold. Market is generally easier navels, seeds and sweets; lower St. Michaels in sizes 300s to

NAVELS—

Flower Grs Ft Co Upland..

rd Nat O Co	3.95
ard Nat O Co	2.55
O K Ft Ex	3.45
o L V W Brown	4.15
esa Riv Ft Ex	3.65
n Riv F Ex	3.00
heart High Ft Ex	3.15
A Ft Ex	2.90
High Ft Ex	3.70
e Doodle Riv Ft Ex	2.70
A Ft Ex	2.90
t S A Ft Ex	3.30

DLINGS—

reador San Mar Grs	3.40
Riv Ft Ex	2.50
Print Riv Ft Ex	2.05
Print Riv Ft Ex	1.90
n Riv Ft Ex	2.00
t S A Ft Ex	2.50
Globe Riv Ft Ex	2.75
Mt. Grs Ft Co	2.50
rd Grs Ft Co	2.05

ITERRANEAN SWEETS—

ndent Cleghorn Bros	3.30
ier A C Benman & Son	3.70
Mt. Grs Ft Co	2.60
ission C C Chapman	3.70
n Eagle C C Chapman	2.70
Flag Spence Ft Co	3.65
r Spence Ft Co	3.15
R J Richardson	2.85
ia Red Mutual O Co	2.60
m Red Mutual O Co	2.45

MICHAEL—Independent, Cleg- Bros., $2.95; Stock Label, $2.45; ier, A. C. Benmam & Son, $3.80; , $3.50; Old Mission, C. C. Chap- $3.45; Golden Eagle, C. C. Chap- $3.15; Lady Rowena, $3.25; Gold- ower, Red. G. O. Assn., $3.00; heart, Highgrove, $2.75; Uncle Riverside Ft. Ex., $2.80; Blue Riv. Ft. Ex., $3.00; La Mesa, ide Ft. Ex, $2.95; La Mesa, $2.70; Stewart Ft. Ex., $3.10; Sola- ewart Ft. Ex., $2.75.

PEFRUIT — Golden Flower, Independent, $3.90; Choice, $3.10; o (halves), $2.40.

LADELPHIA, June 8.—Two vels, one Valencia, one bloods, veet, two mixed and one lemon Weather favorable. Market on good fruit. No arrivals. cars on track.

ELS—	Avg.
A F Ex San Di	1.24
tmenot T C F Ex Porterv.	3.27
af T C Ft Ex Porterville	2.67

ETS—

Girl Grs Ft Co	3.51
n Bells A B Chapman	3.28
n Memories A B Chapman	2.90
ndent Grs Ft Co	3.45

LENCIAS—Mission Bells, A. B. nan. $3.93.

ODS—Floral (halves), $1.36; S. B. F. Ex., Colton, $1.45.

S—Tiger, $2.88; Floral, $2.61.

IONS—Canon, S. T. Ft. E., La- , $2.01; Our Beauty, $1.60.

TON. June 8.—Ten cars sold. n on track. Weather warm. t unchanged.

VELS—

O K Ft Ex	3.45
eart Highg Ft Ex	3.90
Doddle Highg Ft Ex	2.95
ss Q C Ft Ex Corona	2.90
T Ft Ex Fernan	3.60
Highg Ft Ex	3.55
l Q C Ft Ex Corona	3.20
O K Ft Ex	3.30

EETS—Rey, S. T. Ft. Ex., Fer- , $3.75; Tunnel, $3.35; Independ- Grs.' Ft. Co., $3.50; California y, $3.25; Rey (Wolfskill), $3.50, l (Wolfskill, $3.25.

MICHAELS—Victoria, A. H. x., Casa Blanca, $2.73. HALVES il, O. K. Ft. Ex., $1.95.

PEFRUIT — Hibiscus, Sweet- Ft. Co., $2.15; Stock Label, Victoria (seedless), A. H. Ft. 3.00.

TSBURG, June 8.—Sixteen cars ack. Thirteen cars sold. Weath- t. Market firm on good fruit; easier and lower on decayed and coarse stock.

NAVELS—

Pico S T Ft Ex Whit	1.80
Rivera S T Ft Ex Riv	2.20
Coyote O K Ft Ex	2.90
Owl O K Ft Ex	2.65
Red Globe Riv Ft Ex	3.40
Standard Nat O Co	3.30
Yankee Doddle Highg Ft Ex	2.30
Quail O K Ft Ex	2.75
Blue Jay O K Ft Ex	2.55
California Orange Riv Ft Ex	2.30
Orchard Nat Orange Co	4.15

ST. MICHAELS—Success, F. H. Speich &Co., $3.30; Victoria, A. H. Ft. Ex., Casa Blanca, $2.65.

SWEETS—Success, $3.05; Climax, E. Peycke, $3.15; S. S. S. T. Orange, $2.40; Blue Jay, O. K. Ft. Ex., $1.90.

LEMONS—S. S. Brand, S. T. Ft. Ex., $2.05; Lion, S. T. Ft. Ex., Santa Barbara, $2.90; Eagle, S. T. Ft. Ex., Santa Barbara, $2.60.

ST. LOUIS, June 8.—Weather muggy. Market is weak. Five cars sold and seventeen on track.

NAVELS—

Searchlight, Sunset, Ft Ex Or	2.40
Hummingbird Riv Ft Ex Riv	3.10
Sunset Brand Sunset Ft Ex Or	2.45
Riverside Oranges Riv Ft Ex	1.95

MEDITERRANEAN SWEETS—

Sunset Brand	2.75
Searchlight Sunset Ft Ex	2.25
Camelia ex fy Red Mut O Co	2.45
Blossoms ex ch Red Mut O Co	1.95

ST. MICHAELS—

Hummingbird Riv Ft Ex Riv	2.50

LEMONS—

Sunset Brand	1.55

CINCINNATI, June 8.—Weather very hot. Market weak. Five cars sold and seven on track.

NAVELS—

Volunteer San Ant Ft Ex N Pom	1.45
Greyhound San Ant Ft Ex N Po	2.30

LEMONS—

Pet San Antonio Ft Ex San Di	3.10
Greyhound	2.70
Duck	2.30
Circus	2.70
Senorita st B and S Riv Ft Co	2.15

CLEVELAND, June 8. — Weather very hot. Prices low on account of the condition and quality of the fruit. Four cars sold. Nine on track.

NAVELS—

Casa Blanca (off bloom) A H Ft	1.30

MEDITERRANEAN SWEETS—

Belt R H Ft Ex High	2.30
Royal Knight R H Ft Ex Red	3.25
Newsboy Reds-High Ft Ex	2.30
Lochinvar R H Ft Ex High	3.60

GRAPEFRUIT—

Royal Knight	1.65

LEMONS —

Orange Swan R H Ft Ex	2.70
Bonanza E B Leach	2.90
National	2.45

UNCLE ZEKE SAYS—

Sum folks are so obstinate that they will even argue with persons who agree with 'em.

It's as hard fer sum men tu quit smokin' as it would be fer their wives tu quit talkin'.

Opportunity is about th' only kind uv a knocker everybody wants tu know.

If it's true that beauty is only skin deep, it would pay sum peepul tu do a little mining on their faces.

This is th' time uv year when an overcoat is both a necessity an' a nuisance.

More men thrust themselves on greatness than have greatness thrust on them.

A little credit is a dangerous thing.

—Journal of Agriculture.

No class of people can so well afford to have a neat, inviting dooryard as the farmer.

TWO FAIRY STORIES.

Continued from page 643.

dred years after that, or five hundred years after that; that we are just beginning a national history the end of which we can not see, since we are still young." In truth we are at a critical point in that history. As President Roosevelt has said, we are at the turning of the ways. We may pass on along the line we have been following, exhaust our natural resources, continue to let the future take care of itself; or we may do the simple, obvious, common-sense thing in the interest of the nation, just as each of us does in his own personal affairs.

We Are Trustees.

On the way in which we decide to handle this great possession which has been given us, on the turning which we take now, hangs the welfare of those who are to come after us. Whatever success we may have in any other line of national endeavor, whether we regulate trusts properly, whether we control our great public service corporations as we should, whether capital and labor adjust their relations in the best manner or not—whatever we may do with all these and other such questions, behind and below them all is this fundamental problem, are we going to protect our springs of prosperity, our sources of well being, our raw material of industry and commerce, and employer of capital and labor combined; or are we going to dissipate them? According as we accept or ignore our responsibility as trustees of the nation's welfare, our children and our children's children for uncounted generations will call us blessed, or will lay their suffering at our doors. We shall decide whether their lives, on the average, are to be lived in a flourishing country, full of all that helps to make men comfortable, happy, strong and effective, or whether their lives are to be lived in a country like the miserable outworn regions of the earth which other nations before us have possessed without foresight and turned into hopeless deserts. We are no more exempt from the operation of natural law than are the people of any other part of the world. When the facts are squarely before us, when the magnitude of the interests at stake is clearly before our people it will surely be decided aright.

HAS NOT DISTURBED BUSINESS.

Dr. Wiley insists emphatically that enforcement of the pure food law has not in any sense disturbed business.

"The great majority of manufacturers and dealers are absolutely honest," he declared. "They had nothing to clear from the pure food law. The dishonest manufacturer and dealer deserved no consideration. When I was at Jamestown, Va., some months ago, I urged the cotton seed oil men to label their product exactly what it was. They did so. Their business was increased immeasurably. The volume of business and value of the business never has been so great as during the last year. Our exports and imports exceed those of last year. Dividends $20,000,000 in excess of those of last year have been paid. Besides this wonderful prosperity, there has been a distinct improvement in the character and quality of food products."

The above may sound good to the Easterner who buys California dried at far lower prices than he otherwise could have done, but to the fruit grower at this end of the line it is not. Dr. Wileys' unwise management of this campaign has cost California producers a vast sum of money.

Kansas as a State, comes in for a good share of teasing about its long-whiskered men, etc., but, whatever may be her shortcomings she comes to the front with a record of having twenty-five counties without almshouses, thirty-seven counties without a single criminal case on the docket, and 85 out of 105 counties without a pauper. With all this in addition to a bad taste for oil trusts and grog shops, Kansas doesnt look so "worse."—Farmer's Wife.

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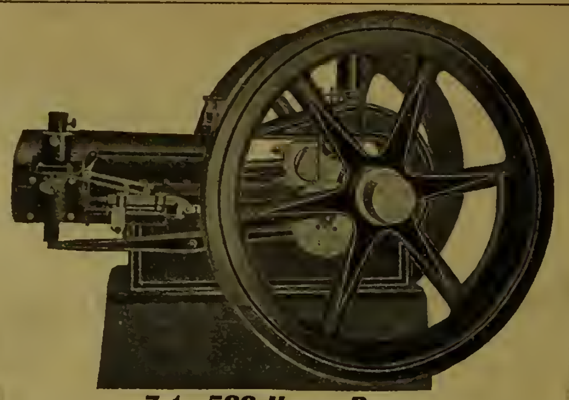

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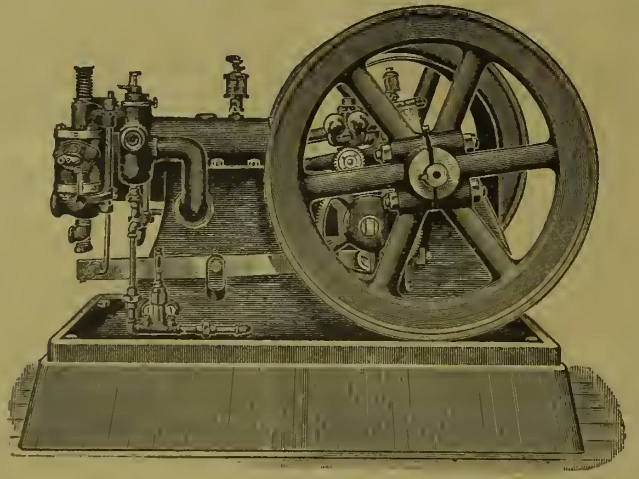

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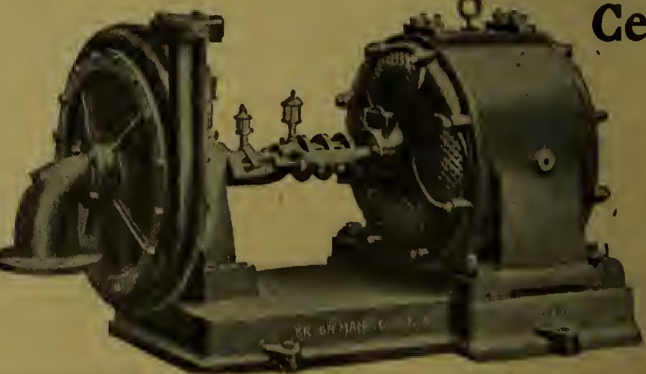

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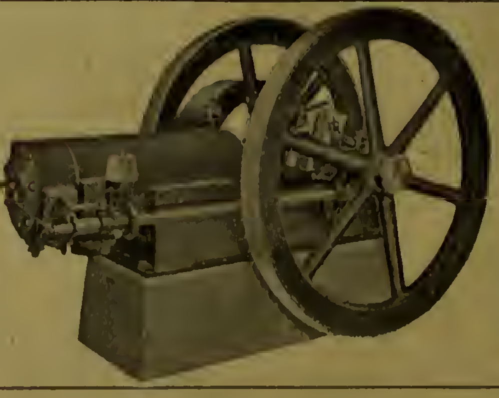

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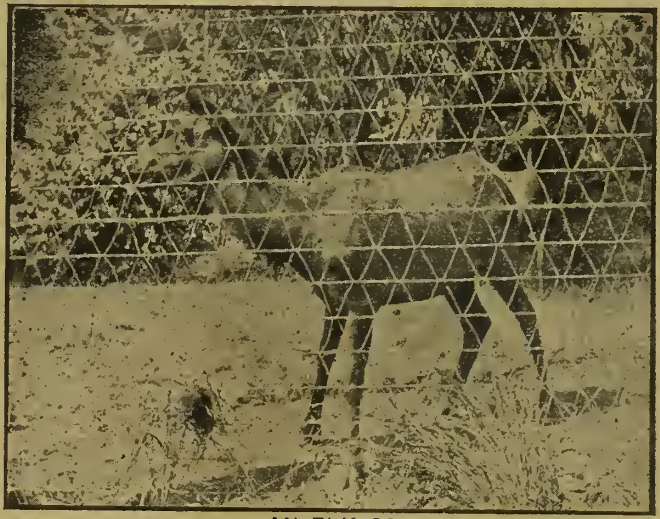

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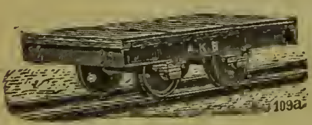

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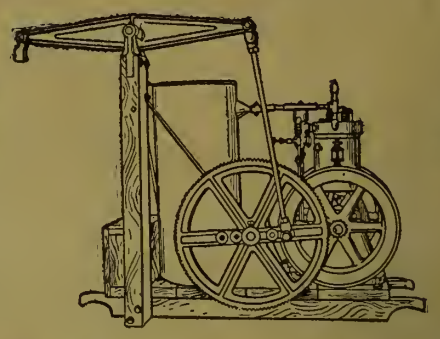

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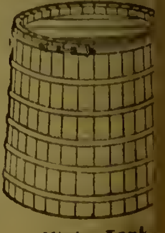

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California Cultivator

ol. XXX—No. 25 Los Angeles, California, Thursday, June 18, 1908 Subscription $1 a Year

Growing and Marketing Table Grapes

An Address by Mrs. Minna E. Sherman of Fresno at State Farmers' Institute at Davis

HE EARLY spring is beautiful in a vineyard country, "When the winter is past and the rain is over;" "the fig putteth forth her en figs and the vine with tender grapes gives ood smell." The view from a high building a vineyard with its orderly rows of vines, gests a great garden. The vineyardist that s out a vineyard with the rows crooked, re- es a word of reproval from every passerby, n the Chinese vegetable peddler up to the ist—all alike feel it to be a personal reflec- on the credit of the community.

ning.

would that more people realized the badness the pruning. The properly pruned vineyard are enough to make one pause and think the profits must indeed be great, if they be so wantonly sacrificed by lack of knowl- e of the grape vine's true character of wth.

ew land is frequently taken for a vineyard the vines do well. Still, if the land is in a ntry where irrigation is new, it is better to the water well into the land before beginning lant vines. If a field is summer fallowed summer and in the fall is plowed deeply n left ridged to take in air and rain; at the ng plowing it may be run into deep furrows well soaked with water, plowed, harrowed sown to corn, the corn watered twice dur- its growth and kept well cultivated. The is worked into the soil and the water held it by the constant cultivation. During the mer fallow time, if straw or manure is well ead on the land and it rots after it is plowed er, it greatly helps the soil in holding moist-

paration.

n land prepared in this careful way, a 98 cent stand of vines can be expected. The d year will give a crop under this treatment the vines will be as large as five-year-old s treated in the ordinary way. If this ns too slow, the quicker way is to put on a number of heavy teams and plow deeply, wing the plows with a subsoil plow, break- and without turning the raw soil on top. t the young vines and irrigate in a single ow close to the vine. In August, after the irrigation for the season, spread on a heavy of manure to retain the moisture. This ch will grow green with the first rains, and e a mass of green manure to plow under. covering of the land from the sun helps it ell, for after all, clean culture in our vine- s is the best, yet, while the vines are young sun burns out the land badly.

he worst possible practice is the common ake made by Eastern men. They reason in the East a clover field plowed under s the growing of other crops. Why not up an alfalfa field for the new vineyard? not? Because the practice is not good. close, unaired condition of the soil and the ing alfalfa roots in a dry climate do not help land. It must be gotten into good tilth first, lse the vines make a poor struggling growth e the ground is coming back to good condi- . It means at least two years extra work re the vineyard is profitable. Planting out cuttings directly in the vineyard has again me the fad. This is the second time it has e to the front among new growers since I had the craze. It is tried and then dropped and then tried again. Now it is simply the old idea of making a short cut and nature will not have it. The Italians are old grape growers and have this as a proverb: "Do nothing hastily but catching fleas."

A Bit of Advice.

If you desire to keep the friendship of your new neighbor, caution him against planting cuttings for a vineyard. I haven't any idea he will take your advice, but he will understand that advice is a good deal like quinine, more blessed to give than to take. The idea that cuttings make stronger vines than rootings, is not borne out when the cuttings receive the same care as the roots. Sometimes, a man gives the cuttings nursery care at a great expense for labor, and makes a great success. Let the same careful man plant roots and see what a vineyard he will have at the end of the first year. The ordinary care given to young vines will not, as a rule, result in more than an 80 per cent stand. Now, if a cutting vineyard only receives this sort of care, it will be about a 30 to 50 per cent stand and have to be filled out with rootings from the nursery. I know three vineyards planted with cuttings that have been a success; in every instance the cuttings received extra care, and it was after a wet winter. One vineyard the young owner planted while too wet to put a team on, and the little space around each vine was cultivated by hand until late in the spring. After all, in July and August this vineyard had to be irrigated twice and some of the vines watered by a cart. In speaking of planting cuttings, I must ask you to bear in mind that I am referring alone to Fresno and its surroundings.

In the vineyard the vines are planted at various distances apart, 8 by 8, 8 by 10, 8 by 12, 8 by 14, 10 by 12, 12 by 14; all have their advocates among the men that are planting table grapes. The men planting vines on their own roots near vineyards having phyloxera plant eight by twelve or twelve by fourteen, intending to plant a resistant root later in the wide way of the vineyard rows. If the phlyoxera never comes they are safe. If it does, they will think this will be a successful way of holding up the vineyard in its production. The men really fighting phlyoxera do not regard this as a good plan, but take up the vines of the infected spot completely and put the land into alfalfa for a term of years.

Fertilizer.

The use of fertilizers is neglected in many California vineyards. Indeed, I know men that say that it is time to sell out when the vineyard needs fertilizing, and allow the next fellow to try it. The size and firmness of the berry in table grapes, its standing up quality depends upon a well fed soil. Two years of good barnyard manure should be spread in the fall early, or if preferred, it can be put into a deep plow furrow after the first rains. The plows are run across the land set deep and back again in the same furrow until at least ten inches deep, then throw in the manure and cover with a couple of furrows. If this is done early enough there is little annoyance from the manure dragging out.

The third year, ground bone is dropped into the furrows and covered at the first plowing. At the last cultivation nitrate of soda is put into the furrow and covered. If the pruning of the vines has been balanced the grapes will set in large bunches and the wood growth will not be too great.

Varieties.

The varieties of table grapes shipped from California in large lots are Thompson Seedless or the Sultanina, the Sultana, the Malaga, Tokay and Emperors. Small quantities of Chonichons, Muscats, Black Prince and Rose de Peru are sometimes shipped out.

The Sultanina are fine grapes when well grown. The bunches are large and showy and the grape well flavored and sweet. As there is little culling or clipping on the bunches, it is a cheap grape to pack and shows up well in bunch packing.

The Malaga is a fine variety when it is good. It needs pedigreeing badly as it varies more in quality than any other grape we have at present. At first we all thought it was in the soil and condemned as Malaga lands the stronger lands. They seemed to fail to produce the sweet amber colored berry. We now find that the amber Malaga is a larger grape on the good soils, and that it does not vary more than a week in the time of ripening on the different soils. The green, watery Malaga does not ripen until Muscat time and is always to the taste deficient in sugar.

The Sultanina and Sultana are more expensive to produce than the Malaga owing to the fact that they require trellising to make full crops. The six-foot stakes are set a foot in the ground and a half foot from the top is placed the upper wire; two feet below it the second wire is run. Long canes are tied to the wires and the vine bears its fruits on the laterals springing from these canes. The Malaga is pruned half high, and after a time becomes strong enough to support itself. The stakes are then removed and used again to stake other vines.

The Muscat is not a shipping grape in most seasons, yet a few are always in demand in local or nearby markets. When raisins are normal in price, these grapes do not reach further than San Francisco and Los Angeles. The Muscat grape is not staked but pruned to a head close to the ground. Today, the general tendency is not to prune or to head the Muscat as low as in former years, hoping to increase the length of the life of the vine.

Tokay and Emperors are both high staked vines. This adds considerably to the expense of the vineyard. Stakes have been high priced these last few years. Now that the Government is selling timber, the small mill is likely to be able to make stakes once more. We may look for a reduction from the ruinous prices now prevailing. The cement stake promises well and after a few years' trial we will be able to tell if the unpreventable accidents in vineyard work will be too many to make it profitable. Poplar, willow and mulberry stakes are used by peeling them and at once standing in a solution of blue stone; after twenty-four hours they are ready to use. How long these treated stakes will last has not yet been proven.

Table grapes are usually well irrigated in the winter time, as they are often ruined by mildew when summer irrigation is attempted. Indeed, I regard it as folly to irrigate an old Emperor vineyard in the spring after the foliage has started. The years of deficient rainfall, the vineyards

Continued on page 670.

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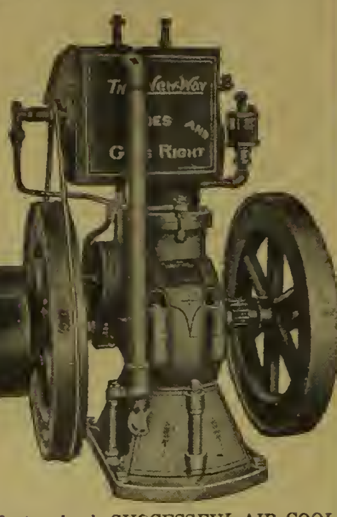

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1¼ "	2.24 "	5.65	6.90
1½ "	2.68 "	6.50	8.00
2 "	3.61 "	9.00	11.00
2½ "	5.74 "	15.00	17.50
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With the Citrus Growers

GUM DISEASE.

WE were asked to speak on diseases of citrus trees at the recent Fruit Growers' Convention, and it was the intention to say a few words on the scaly bark form of gum disease, but most of the time was consumed in the general discussion of citrus diseases and the few minutes left prevented us from touching on this subject.

It was for a long time supposed that the disease was contagious and treatment was in line with the idea of preventing its spread. It is now supposed by many to be due to uncongenial conditions of the soil and that when these conditions are corrected, the disease will disappear. Just what constitutes these unhealthy conditions is not easy to explain, but the lack of humus and its general good effects on the soil and plants is given as the primary cause.

This is not only wholly our view of the case. We do not believe that the old groves of Southern California, that now show the disease, will ever be entirely free from it for any great or moderate length of time. It seems evident that many younger groves will develop the disease, no matter how well cared for they are nor how much humus is put into the soil. We are convinced that the scaly bark disease is a constitutional weakness in the individual trees and is aggravated by various adverse conditions of the soil. Primarily, the soil is not the cause. We base our conclusion on observations made on both old and young trees in both Northern and Southern California. There are thousands of trees of various ages that have the disease and are entirely isolated from other diseased trees. The roots of diseased and healthy trees have been intermingled for years, yet one tree is diseased and the surrounding trees are in apparent perfect health. Had the primary cause been due to poor soil conditions, all trees growing in these soils would be affected. In some trees the disease does not appear until they are perhaps thirty years old. In others it has appeared the second and third year. There are many cases where trees have become infected in the orchard when but two years old and when dug out, other trees planted in their place have never become infected. In several such cases we know that no extra care was taken to remove the earth for a space larger than was necessary to receive the tree and no special care thereafter was given. Still these trees have grown in these secondhand places longer than the first trees did and have shown no sign of gum disease.

In other cases, nursery trees have become badly infected with scaly bark gum disease while adjoining trees a foot on either side remained perfectly healthy. Still other cases are those which have developed extremely bad case of this disease after having had heavy green manuring crops grown among them for several years in addition to the application of other fertilizers. These cases are to be seen in Riverside and perhaps many other places; in fact, we do not know of a citrus growing section in Southern California where examples cannot be found.

If the above facts go to prove that the trouble is primarily with the individual trees, it does not seem that those trees which are affected or will become affected will ever be entirely free from the trouble even though they may be relieved and apparently cured. The cause is more deeply seated than soil conditions and the only way of securing trees that will not develop the disease is through selection. Elimination of specimen now affected is of no use to those who have sick trees. Selection of stock that is immune from this disease is, in our mind, the only safe method in securing an orange grove that will never be affected with the disease. There are groves in which it has never appeared but how long that will be the case no one can tell.

Immune Stock.

This term applies to the part of the tree above the bud as well as to the budding stock. It is well known that the Florida Sour stock is immune from this disease and also are many seedlings. In the case of the latter there are thousands of exceptions, while with the sour stock we know of none. In the Sacramento valley are many small family orange groves that are fifty or more years old and in none of these have any signs of the scaly bark disease been observed. Many of these trees are on land that is constantly moist from subirrigation and in many cases the trees have stood in flood water during short periods. These trees are seedlings of a different nature than the seedlings raised in Riverside. The latter have few seeds and they are small and not so well filled as are the seeds of the northern oranges. These have many times as many seeds as the Riverside seedling and the seeds are large and plump. There seems to be little difference in the growth and development of seedlings during the first year at least. Even seedlings from some of the most badly diseased trees in Southern California appear as strong and thrifty as those from the plump seed from the immune trees in the north. While it is no doubt important that the root stock should come from strong and immune trees, it is all important that buds be selected from immune trees of commercial varieties. There is every evidence that there are thousands upon thousands of such trees because there are as many which are growing thriftily among trees which have been diseased for many years while they are themselves in full vigor and free from the disease. To the ordinary thinker, it would appear that buds taken from healthy trees that have grown up with trees that are scaly with the disease, would prove the most hardy and free from the trouble, whether the trouble be constitutional or due to poor soil conditions.

J. W. Mills.

ANOTHER PRE-COOLING PLANT.

That co-operation is a complete success in California, is being proved to the satisfaction of members of the organizations, is plain. The orange growers have saved their industry and in addition have firmly established a great marketing system which is the wonder of the fruit world.

In addition to the system has been established a line of packing houses which are most complete in every detail.. A couple of these houses, Mr. Rumsey's at Riverside and that of Pomona Fruit Growers' Exchange at Pomona, have been described in the Cultivator. The following is from the

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The pre-cooling plant has six rooms.
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rom the packers' bench the fruit is
ed on rollers and carried to the
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from employees. The tempera-
of the room is then brought to
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nt is placed between the cooling
ms and the cars that the fruit
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elling force should be laid out at
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ed a gasoline engine ready for
thus doing away with any possi-
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Did He.

the ordinary manager of a fruit
ciation it is a wonder how Man-
Van Duyne, of the East High-
s Fruit Association, could get his
bers together on such a proposi-
and get them to enter into such
nvestment, but this matter is
y understood when it is explained
the association has but 25 mem-
, holding from 80 to 400 acres of
ge land each.

is year the association will ship
ast 600 cars and the shipments
possibly exceed that amount.
amount of business demands a
class equipment, which is fully
zed by the directors of the asso-
on, and thus may be explained
cause of the amount invested in
strictly modern fruit packing
shipping institution.

FRUITS IN PORTO RICO.

A recent American Consul and Trade Report, contains the following in regard to the growing of oranges and pineapples in Porto Rico:

Until the American occupation of Porto Rico there were practically no shipments of oranges to the United States. The natives possessed no knowledge of proper packing methods, and the duty was prohibitive. After the American occupation, the duty was reduced, which gave the industry an impetus and led a few American packers to commence shipping to the United States. Previously no citrus fruits were cultivated in the island, while at the present time it is estimated that about 7,000 acres are under cultivation, principally on the northern coast, between San Juan and Arecibo. The stocks are Florida and California, and the plantations are owned and managed exclusively by Americans. The principal yield, however, is from the native or wild orange trees, neither cultivated nor fertilized, which grows in the mountain regions, on the west coast in the Mayaguez and Aguadilla districts, and on the south coast in the Ponce district. With few exceptions, there are no regular orange plantations in the Mayaguez or Ponce districts, the large number of trees being found on the coffee plantations, where they were planted to give shade to the coffee trees.

These so-called wild oranges, like all tropical fruits, must be handled with the utmost care in order to reach the United States in good condition. This has been accomplished during the last two years owing to the improved methods which the packers have adopted in the picking, transporting and packing of the fruit. The season begins in September and lasts until about the middle of April. The Porto Rico orange is very sweet and of fine flavor, and the exportation of them has annually increased since the opening of the industry, amounting at present to 250,000 boxes a year.

Pineapple culture is increasing in the island, this fruit having been extensively planted during the past two years. The variety most suitable for shipment in a green state, packed in crates, is the Red Spanish, which originated in Cuba. This is the only variety which can be depended upon to arrive in the United States in good condition. There are now several canning factories on both the northern and western coasts, which are buying up all those varieties and grades which will not bear shipment in their original condition. This industry has been a very paying one to the planters for the past year, and promises to assume larger proportions.

With better transportation facilities, fruit and vegetable growing in this island will, no doubt, develop into a most profitable industry.

GIRDLED ORANGE TREES.

An orchardist at Porterville has just had a most unfortunate experience in the destruction of about 30 fine orange trees by a vandal too mean and low to live in a civilized community. Such an act is on a par with the ham stringing of a horse or the slashing of a harness, and calls for punishment far worse than can be given under our laws.

We do not know how serious the injury to the body of the tree may have been, but this experience recalls that of the writer several years ago, when a large orange tree loaded with fruit was gophered completely for 16 inches and supposed to be past saving. However, mud was packed about it and kept in a moist condition for some weeks and it was later found that the entire surface was granulated and later a new bark formed over the entire wound.

In the case of the Porterville trees, it is probable the wood was so injured by the use of the ax that such treatment may not have succeeded with them. But for the benefit of others this experience may be of value. Where a wound is higher on the tree we have known of the use of fresh cow droppings, which, when placed over the wound and bound on, have been kept moist, answered the same purpose even more effectively.

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The Reliable Dayton Motor Car is not a luxury but a necessity because more ecomical efficient and rapid than a horse. Saves time—saves money. Simple to operate. Staunchly built of best quality materials and the only motor car on the market today which has actually proved satisfactory in year aronnd service—winter and summer—good roads and bad. Solid rubber tires, hence no punctures or tire expense. Twenty-inch road clearance. A Reliable Dayton Motor Car makes it possible to keep yonr horses in the field earning for yon. Will take you to town and back in one-sixth the time it now requires. Ready when yon are, for one mile or a hundred—requires no attention when not in use and eats only when you use it. Let us send our catalog illustrating and describing all models. Prices without top: 2-Passenger Car, $788; 4-Passenger Car, $925.
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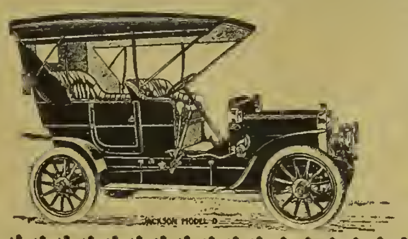

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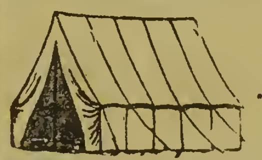

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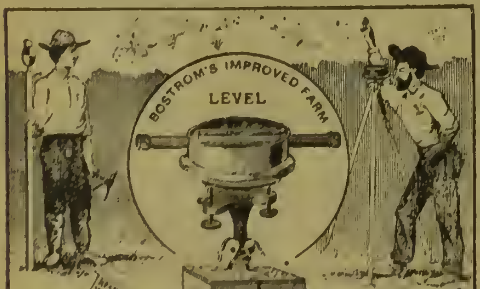

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Deciduous Fruit Cultur

BUDDING GRAPES.

IT IS often desirable to change the variety of grapes on an old vine without destroying the top by grafting below the ground which is the only practical way to graft a grape vine. Budding during the active growth during the spring is easily and conveniently done. In the case of an arbor grapevine which has already covered considerable space and affords summer shade, the change in variety may be made with scarcely any loss of time or shade.

After the new shoots are about a foot long, there is a point where the tender growth will not snap when bent slightly and the bark will slip. At this point the bark may be slit and when the cane is bent slightly in at that point, the bark will separate sufficiently to admit a bud. The bud should be taken from a cane of about the same size and maturity as the new cane to be budded into. Cut the bud with the leaf stem remaining and part of the leaf about as large as a nickle. When the slit is made in the branch and the bark is raised by bending the part inward toward the slit, the bud can easily be slipped under the bark, the leaf stem providing a handle to place the bud with. The bud should be snugly wrapped with waxed cloth and left till the union is made. This can be determined after a few days without disturbing the cloth. If the bud takes, the leaf stem will gradually ripen and will fall off with a clean cleavage at the sucker. If the bud fails, the leaf stock will turn dark and stick tight. The wrapping should be removed in a couple of weeks or sooner if there are signs of binding. A good way to do this is to draw a sharp knife along the cane and across the cloth on the opposite side from the bud; this will protect the bud for a short time from the sun and relieve any binding. This should not be done till after the union has taken place and the bud has healed well. This takes place in not less than ten days, and two weeks is perhaps better.

After the leaf has dropped from the bud, it is safe to cut off the cane just beyond the bud and allow the latter to grow.

GRAPE VINES.

A French authority on grape culture writes that young grape vines should be cultivated deeper than old ones. The main roots that develop when the vines are young go deeply, but the feeding roots of bearing vines come near to the surface and too deep cultivation will prove injurious. These rules apply to heavy soils and that class above medium heavy, but sandy soils should be cultivated deeply all the time. It has been our experience in California, that deep cultivation in all kinds of soils is best for deciduous fruits. As a general proposition, it is the best in all cases.

The effectiveness of a mulch is determined by the depth or degree of fineness. If it can be made exceedingly fine, that is, like powder, three to five inches is sufficient in the coast regions, but in the interior six to eight inches is better for the reason that the soil gets very hot for several inches deep in the interior, and when there is sufficient moisture in the soil to supply the plants, it must come up to the mulch, and if the mulch is so shallow that the ground gets hot below it, rapid evaporation is the result.

There is some difference of opir as to the number of cultivations n essary or desirable to give the best sults in orchard or vineyard pract We have become convinced that w ly cultivation on some soils at l serves to retain the maximum amc of moisture. We have seen orange chards in which the cultivator kept going almost constantly, th and produce big crops year after y with almost half the number of gations required by adjoining grc which reecived little more cultiva that was necessary to put them shape after irrigation.

There is a great difference in c vators, in relation to retaining m ture. One with broad teeth set a angle that turns the soil over cultivate the moisture out of the but when the teeth are narrow, half to three-quarters of an thick, they will keep the soil stirred and not turn up any mois to speak of. Those cultivators teeth as wide as two inches shoul made over for they are a poor and lose more moisture for the chardist and vineyardist than save. Any kind of teeth can be on any kind of a cultivator. T your machine to the blacksmith tell him to fit it out with steel t not over three quarters of an thick. Harden the points as har possible and leave the balance of tooth soft so that if they catch c root or rock they will bend and break the points. If the teeth made of steel half an inch thick two inches wide and set to run e wise, they will be strong enough W. Mills.

TABLE GRAPES.

Continued from page 667.

should be irrigated in the winter cultivated to hold the moisture.

A Good Seller.

The Tokay grape has brought r money into the State than any o table variety shipped out, for its age is very great. Like the Emp it grows well on heavy, shallow It is a handsome grape and a carrier. I really think that both kays and Emperors taste bette New York than they do in Califo The Tokay colors highest when heat is not too great. Where climate is cooler than one in the temperature clings lov around a hundred degrees for after day. The last season in Fr was favorable to the Tokays, an packing houses sent out well-co fruit to the East.

The Tokay color could be re improved in the hotter portion o State by a little selection. I worked the Emperors most succ ly by pedigreeing them. This is by using only cuttings from ma vines that had produced for two sons a reasonable amount of class grapes; large berries, high ored and large bunches only were sidered. The vines were large a was easy to get more cuttings th cared to use that were first clas every respect. The output of chantable grapes was increased three and a half and four tons t acre to eight, nine and ten tons; culls were reduced to a minimu

The vines must be kept clean. ally keeping a vineyard clean, th keeping down the weeds, is all th it necessary. The vines them- should have the fungus growth off and dead knots removed, pray tne whole vine heavily with aux mixture just before the swell. Clean up all the trash the vineyards, leave no place d mildew spores or thrips or rs. All these can be controlled ping down their breeding places. vines need sulphuring then it begin while the leaves are mall and again later at the blos- g time. The suphuring machine uccess. It blows the sulphur it is needed and wastes none. refore, reduces the amount need- reatly. Red spider and purple sometimes show up late in Au- spraying with cold water con- these. Usually they are simply one and the next season the are given more water in the win- me as dryness is thought to be ause of the rapid multiplication se pests.

mperor.

Emperor grapes have been our ss and the high prices received is crop have induced planting all the country. Many are unsuc- l. Some from poor quality of the they planted, some from summer ion and some from bad pruning. pruning is often merely "go as lease process" and never two alike. I often wonder that the bear at all. Then I look at my vineyards and think: "It is a preacher that follows his own e," I cannot get the pruning done y except I stay right there and a few careful white men at work. l mistakes in the years as they we learn what not to do with the .

e same experiments we all tried n years ago are being repeated will prove unsuccessful again. I d half an hour to one grower who about to plant Emperors. He a man above the average in intel- ce. Indeed he came to me for ad- After all, when he went away aid he would plant his Emperors feet apart and trellis them. I up, as I had hammered in the ght that tonnage was not wanted shipping grape, but quality.

e Red Emperors bears its large ters of high-colored grapes on tne n of the vines. Large bunches of dark fruit sold as Emperors are etimes produced at a distance n the head of the vines. The more vine has laterals, the more little k grapes will it bear. As every l produced taxes the vine as well the land, it is folly to produce a of worthless little grapes that the ery will buy cheaply. With long lised pruning the Emperors will luce immense tonnage of cheap , worth, say, seven or eight dollars n; or the same vines will produce, proper pruning, a minimum crop ruit worth fifty dollars a ton. ther the vine nor soil is taxed to luce the crop.

he Emperor grape cannot be rec- nended to careless growers. Year r year, a well cared for Emperor yard planted from selected vines, small mint to coin money. The pes are as beautiful in their soft, monious, jewel-like coloring almost a begonia. The Emperor is a good pper and stands considerable rain le on the vines without damage to shipping qualities. It also holds well in cold storage.

Growing.

The market for table grapes grows constantly. I well remember when six cars of Emperor grapes was all I could sell on the New York market, and then the seventh car slumped badly. The day of the ventilator cars made shipping risky business, and returns were considered good at a thousand dollars a car. Now we look for two thousand or more a car for the best grapes. I expect to see the better quality of grapes, those we like to eat, go to the Eastern market under the improved ways of handling. The pre-cooling of the fruit before it enters the refrigerator cars will greatly help the grape shipping trade.

Pretty Girl Faces.

The love of fruit packing grows on one. I was never as happy as when with the girls and women in the packing house. The eye was feasted witn the marvelous beauty of the grapes, almost as sweet as the pretty girl faces bending over them. That is past—today we have Japanese. They are not pretty, neither is their work pretty. If they would try they could do better, but they simply will not try, I often watch them strutting around, proud of the Lord only knows what. Yet, not too proud to accept unearned money. The thoroughness they showed in the late war as soldiers makes us know that they can do their work well, if they are willing to learn The bloom has gone from the packing house and it has become drudgery. The shipping grape is like the Bartlett pear, easily damaged in handling. The grapes should never receive the slightest jar in handling; cut and held by the stem and laid lightly one bunch at a time in a large sweat box—this is the only way to preserve their bloom. The sweat boxes are well padded by a thick layer of hay under the papers, to give the grapes a soft bed to ride on. These boxes are hauled on wagons with springs, and the vineyard roads have the ruts and "thank you moms" smoothed over and tramped own to save jolts. Steady, slow horses are used to draw the wagons to the packing house. The sweat boxes are lifted by two men on and off the wagons. They are stacked log cabin fashion to leave plenty of space for air; after twenty-four hours the stems are limber enough to pack.

In Emperor packing a girl or two spends her time in picking out the clusters from the large boxes before they are carried to the ordinary packers' tables. The cluster fruit is carried by the stem carefully and laid on paper in other sweat boxes at the packers' tables. Sometimes half the packers are at the cluster tables. The ribbons on a ten-car pack will cost a hundred to a hundred and fifty dollars. The ribbons should be tied and then the bunch tied on the stems of the grape. The ordinary packers will trail the ribbons over the grapes and injure the bloom. I sometimes find a girl who is an artist in tone work; and when I find one, she alone puts on ribbons.

Ship in Bunches.

The ordinary packers must not be allowed to cut the grapes up into little bunches to make the top of the crates more even. This is the easiest way to top off a poorly filled crate, but it is inexcusable in a foreman to permit it. If the packers are trained to fill the corners first of the basket, then fit in a center bunch, the tops will come out smooth enough and the basket will be full weight. The fruit in each crate should be even in size and color. The packers seem to think that it is doing the owner a favor to fill the basket as rapidly as possible without regard to doing well. When one can bend this enthusiasm to careful work, it makes for goodness. The lack of skill in using the fingers, as well as the color blindness, makes one wish that every child could have a kindergarten training.

"Send More."

The early fruit packing, for it is seventeen years this week since I first began to pack fruit on the ranch, the early fruit packing was pioneering. We had none of the ideas now common. The grapes were clipped up into little pieces and faced into a form, they came out of it as evenly surfaced as cherries and without any bloom on them. It was not a pretty nor appetizing looking pack. The first year they went in like that to the market. The next year I rebelled against cutting up the large bunches, and to make the basket larger, cut down a side and put two together tacking the cut sides to the bottom. Then I tied on a few pieces of baby ribbon left from the year's Christmas packages. When the grapes reached the East I reecived a telegram to send more. It has been more! more! Like little Oliver Twist, the demand is still unsatisfied.

The early commission men argued strongly against the shipping of the large bunches in this way, as the crates were lighter and took up too much room in the cars. I knew this was not reasonable for I had lived in the East and knew the trade could charge well for that brilliantly colored fruit. The women in the East were willing to pay as much for it as for flowers; for the fruit not only decorated the dining table, but it became a part of the dessert. In the season of the year that Emperors are in market ten dollars provides only a few flowers for a dinner party, hardly enough for more than a simple affair. These grapes, when arranged under an electric light rival hothouse flowers in their effectiveness. These first large baskets were a surprise when they sold for three and a half dollars and up, a single crate. The old double crate we never used except in emmergencies. The consumer was asked to buy a "pig in a poke," and as we had nothing to be ashamed of in our pack, we felt proud to pass him the single crates, so he could see that his "pigs were in clover."

In a packing house, a woman is better to oversee the women workers; while a man can best put up with the Japs, as he has more patience with masculine stupidity. If any women at all are employed, a sensible forewoman will hold things in order and suppress the little snippy fresh youths that come out as floor boys. They are usually smarties rather than vicious, but little gnats are often more annoying than bigger beasts. If a packing house is to hold conscientious women packers, it must be high toned in its personnel. The bloom must be kept on the workers as well as on the grapes. It is the bloom that makes the Eastern agent smile when the crates are opened up. It is the bloom on the workers that makes work a joy,

Continued on page 687.

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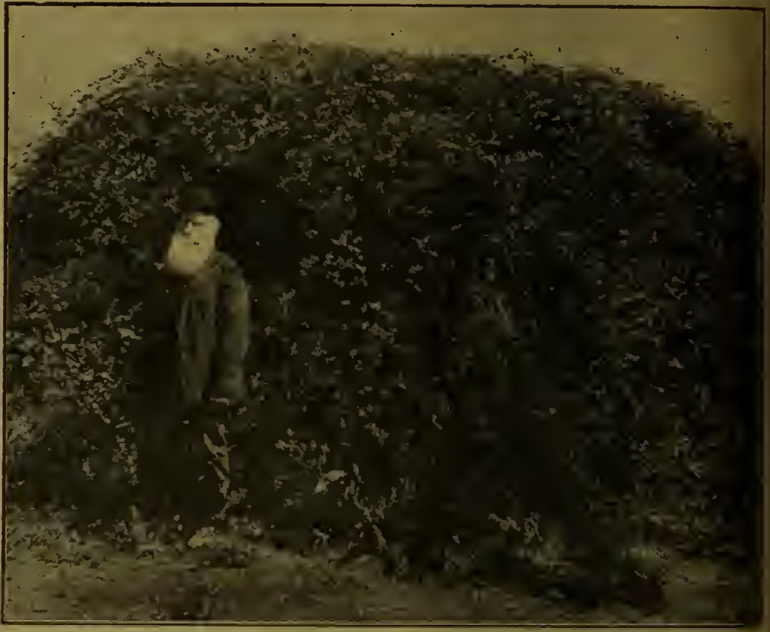
POTTER VALLEY'S WONDERFUL BLACKBERRY BUSH.

I SEND you with this article a photo of the largest and most prolific blackberry bush that I ever saw or heard of. If there is another blackberry bush on this coast, or in the United States, that equals or exceeds it in size and bearing qualities, I should like very much to hear of it through the columns of your valued paper. It is of an oval form, eight feet in height to the apex, sixty feet in circumference and greatest diameter, crosswise, 18 feet.

It is growing on rich alluvial soil, and I am informed that it has never been fertilized nor irrigated, and all the pruning it has ever received was to merely cut off the long, straggling branches on the outside once a year.

My daughter and I picked fifty pounds of berries from this bush the latter part of August, 1908, and we scarcely missed them from the bush. This was after many others had picked from the same bush. I picked three pounds standing in one position. I could have picked double that amount if I could have reached into the bush further, but the entangled branches with their sharp thorns prevented me.



I am fully satisfied that this wonderful bush bore at least two hundred pounds of berries that season, and the lady that lives on the place where it grows, says she thinks my estimate is within bounds. The sun damaged the berries very much where they were fully exposed, especially on the south and southwest sides, and consequently many of them were quite small, while those that were partially shaded were of medium size and very sweet when fully ripe.

It is my opinion that if this bush were properly pruned, fertilized and irrigated, as well as shaded somewhat from the extreme heat of the sun in July and August, that it would bear between three and four hundred pounds in one season. I am informed that it was brought from Santa Rosa when very small and was known there as the Evergreen blackberry.—Ira W. Adams, Potter valley.

Do not fail to sow a patch of spinach in the garden as soon as possible. It comes quickly and makes nice "greens." A patch of turnips serves the same purpose and many people prefer the vigorous flavor, with its slightly better taste, of the turnip greens to the spinach or kale.

COPPER FUNGICIDES.

Extensive experiments by som the Eastern stations show that t is quite a difference in the adhe ness of different copper fungic The solutions used were two per and three per cent for Bordeaux one per cent for verdigris. E gallons per acre were used for first and 100 gallons for the fo spraying. The experiments were ried on in nine different districts the results showed that verd ranked first in adhesiveness and came a combination of verdigris, deaux and Masson's mixture. All mixtures were more adherent w applied fresh. Bordeaux mixture serves its adhesivesess when the perature is high while those w contain soap lose their adhesive when the temperature becomes l

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Some plants very useful in the den are neglected by many who m grow them. Egg plants are no all common in family gardens they are very nice on the dinner ta Sweet peppers are neglected b great many, but they are a fine, wh some dish, raw or cooked, in m ways, and last till frost. If the v are pulled and put under cover peppers will be good long after f begins.

All who want to have a good l late cabbage will have to make in sant war on the cabbage worms is claimed that sprinkling with water kills them. But the troubl to get the water down to the w buried in the leaves of the cabb Some of the insect powders are good. But whatever one uses, stant attention must be given.

Gardening in connection with public schools is becoming popu It may be only a fad, but it wi least do the children good while lasts. No boy or girl ever took sensible, working interest in a gar without getting lasting benefit.

Don't let the tomatoes get down the ground as the fruit beco heavy. If you can't do any better the vines up on a potato crate. N ing will spoil tomatoes quicker more surely than to trail on the ea

---

The soil for strawberries should rich, deeply worked, with good, ural or artificial drainage and not flat that the water will stand on during the winter.

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THE ASTER.

ASTERS, or Michaelmas daisies as they are commonly termed, are perennial herbaceous plants blooming during the late summer and autumn months. The genus is a large one, over a hundred species being known. Most of the species are of little account as decorative plants for the garden, while others, and varieties raised from them, are worthy of a place in most gardens. The principal objection to many asters was their long and straggling habit of growth, but most of the kinds now generally grown are dwarf and compact. The range of color is not wide; the majority of the species and their varieties produce flowers of shades of blue, lavender and purple, a few bearing white flowers. The plants are hardy and very floriferous, and are specially suitable for mixed groups or borders where they supply a quantity of flowers of unusual and pleasing shades of colors at a time of comparative scarcity. The flowers are valuable for decoration, lasting well when cut from the plants.

The genus aster at one time included many shrubs, herbaceous perennials, and annuals, now referred to other genera, including Callistephus commonly known as the China aster. For the purpose of these notes the China aster may be referred to, as it is unlikely that it will be known under any other name than the present common one. A number of varieties of the China aster have been raised by florists, many of them being of exceptional merit. They are favorites with numerous gardeners, amateur and professional, although their season of blooming is comparatively short. Many diverse forms are obtainable, and the general habit of growth of the best varieties is neat and compact. The flowers are valuable for decoration, lasting well in water.

Soil and Culture.

The cultivation of the perennial asters is exceedingly simple. They will thrive in any fair garden soil, having a preference for soil that will be cool and fairly moist during the growing season. They will grow fairly with a little attention in the matter of manuring and watering, but repay any special care in those directions. In fairly rich soils and situations, where they are allowed room to expand, they will not require to be removed and replanted for several years. In poor soils, and under hot and marsh conditions, it is advisable to lift the plants and transplant into manured soil each season. The usual method of increase is by division of the parent crown in autumn or spring. A small division will develop into a fairly large plant during the season of growth. Plants may be struck from cuttings in spring, but this method is rarely practiced except by nurserymen when desiring a rapid increase of a scarce kind. New varieties are raised from seeds, which should be sown in light soil in spring. Seeds saved from some of the newer hybrid kinds may produce varieties varying in some respect from the parent. The general cultivation of the perennial aster during the growing season consists mainly in keeping the soil fairly moist during dry weather, and training the plants to stakes where necessary. Tall growing varieties may be cut back when about a foot in height, which will have the effect of dwarfing them a great deal.

The China asters are annuals, and must be raised each season from seeds. They are classed as half-hardy, a classification that denotes inability to resist normal winter conditions. Seeds should be sown in spring, March and April being the most suitable months for these and most annuals of a like nature. To get good results, seed should be sown in boxes of light soil, and when the young plants are fit to handle they should be transplanted into boxes or beds and grown on for a long time, when they should be transplanted into their flowering quarters. The first transplanting insures sufficient room for the development of the young plants; while, if left in the seed beds or boxes until the time came to transplant them into the beds or borders, they would unless sown very thinly be drawn and weakened. To attain something approaching perfection the China aster requires a good, rich soil, well drained and prepared, and a fair supply of water during the growing season. Under suitable conditions some of the strains produce flowers of great size and beauty. Where water is scarce a mulch of manure will assist materially in the development of the plants. After the flower buds are formed it is advisable to withhold water in a measure as the flowers are liable to "damp off."—Journal of Agriculture of Victoria.

UNCOMMON, BUT GOOD VINES.

While too much variety is generally productive of an unsatisfactory effect in the case of flowers, shrubs and trees, unless the design is extra good, variety in vines is something much to be recommended. Whether a place is covered with one kind of vine or many, the effect on the eye is the same. There is a good, pleasing mass of foliage. But to the owner of the place too much of one vine, such as honeysuckle, woodbine, clematis, etc., often becomes monotonous.

There is no reason why many different kinds of vines should not grow over the same place. Most vines are "tolerant;" that is, they get along pretty well together.

Among the good, swiftly growing vines that are not generally known is the Japanese Akebia quinata. It is free from insect foes, grows very fast and has beautiful leaves that unfold early and stay late. It has spicy, brownish flowers in early spring and gets along very well with other vines.

For low verandas or trellisses, there is a good vine known as the Chinese Matrimony vine (Lycium Chinense,) which has bright purple flowers that are succeeded later in the season by brilliant scarlet berries. The Bignonia Grandiflora, or trumpet creeper, has rich orange-scarlet trumpet-shaped flowers. If it is pinched back when it has gone as high as you wish it to grow, it forms a thick, shrub-like head.

One of the most prodigious growers of all is the Kudzu vine, a Japanese importation, which has the peculiar name of "Jack and the Beanstalk," on account of its swiftness of growth. Its foliage is large and lobed, and late in the season it bears pea-shaped purple flowers in clusters.

EUCALYPTUS WOODS.

An instructive showing of the wood of many varieties of Eucalyptus is made at the store of the Morris Snow Seed Company of Los Angeles. It is proof that but few in the State know the beauty of the wood of these trees. Strange as it may seem, the wood of the ordinary blue gum is one of the handsomest of the lot and at the same time one of the hardest and apparently the strongest. One of the most striking panels is a curly piece of the ordinary blue gum.

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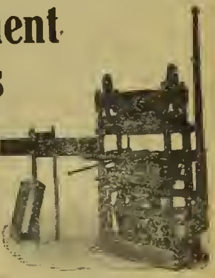
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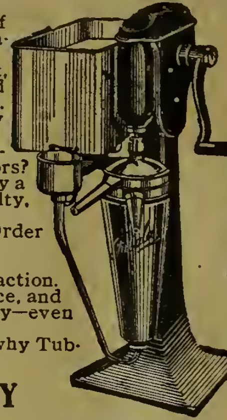

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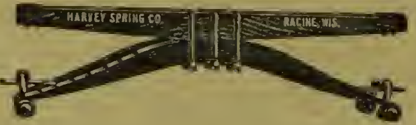
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Live Stock and Dairy

ODDS AND ENDS.

THIS IS the season of growing, when the grass putteth forth anew her green leaves. The droning, whirling sound of the lawn mower is heard all day long. Naturally the family cow receives, as a treat, the short clippings from the lawn. Then comes letters and post card to the "cow editor" full of trouble over the clippings making "Bossy" ill. Some correspondents blame the trouble on the neighbor's dogs for carrying old bones and highly ripened meat to the lawn. While these morsels, dainty to the canine heart might be very objectionable if fed to a cow, the actual fact is that the cow will reject any grass that is flavored with tainted or flesh foods. In some cases the indigestion is the result of overfeeding or gorging on green food, the sudden change from dry feed being more than the cow's stomach can endure.

Bloating.

Gases form, colic or bloating comes on and the cow must be relieved by doses of bicarbonate of soda, administered in a little warm water. If she is too bad for this mild treatment, to relieve promptly try inserting the hand and arm well greased down her throat and see if any of the stuff can be reached and pulled up. A stick like a bit is often tied in the mouth and the cow stood with her front feet on a ditch bank or on a box, a foot or two higher than the hind feet to allow her to belch up the gases. In severe cases the trocar is used to let the gases escape from the side. If your hand is large enough to strike an octave well on the piano, it will measure for the spot to puncture. Place the extended hand on the point of the hip bones measuring forward. Place the other hand, extended with the little finger resting on the back bone, where the thumbs touch each other is the spot to puncture the cow. The trocar has a blade and a sheath that follows the blade, the tube is left in place and the gas escapes. The ordinary man will use his pen knife and insert a turkey or other quill for a tube. After the gases have rushed out, this they do often with a whistling or noise, no further treatment is necessary. We usually dust a little iodoform over the puncture to dispel the flies. The common farmer daubs on axle grease and it seems to answer the purpose well enough.

Regurgitation.

In the majority of cases the trouble with feeding lawn clipping comes from the shortness of the feed. The cows eat of them greedily and neglect to eat the less sweet, long hay; without the long hay a proper ball or cud is not formed. A cow in grazing never secures much short feed as she has to wrap her tongue around the long grass and pull it off. A horse, on the other hand, bites the grass blades straight through and can eat the grass down to the very roots. The lawn clippings are short and are swallowed loosely matted together; they fail to cohere and when the mass is regurgitated for extra chewing the stomach fails to eject them all, enough remains in the first stomach to ferment and bring on indigestion. The cow becomes feverish often drying off in her milk.

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Cures.

Give her promptly a pound of Glauber or Epsom salts with two tablespoons of ground ginger. Use plenty of warm water with the salts, half a gallon to a gallon, the object being to wash or flush out the offending matter, to stop at once the fermentation of undigested foods. If the trouble ends with one dose all is well, if not, after a day repeat the dose of salts. Wait six hours after the salts operate then give the cow a quart of bran mash and a double handful of long hay, alfalfa preferred, as more tempting to her appetite. If this feed is taken readily and the cow is hungry for the next feed, give her half the amount fed to the other cows, keeping her on half ration for a couple of days.

Prevention.

It has been well said that an ounce of prevention was worth a pound of cure. Now to prevent a return of this trouble remember to see that in beginning to feed lawn clippings, begin with a small amount and be sure that the cow eats enough long hay or long grass to prevent the short grasses from packing in the stomach. Watch her to see she is chewing her cud. It is right to feed the lawn clippings as it is good food. It is fresh, green food. Grass usually runs about 75 per cent water and 10 per cent of solids or fibre. There is, therefore, a loss in drying grasses for feed by the convertion of a portion of the green succulency, that carries available nutriment into woody fibre. With corn silage to balance against alfalfa hay in California, we have a perfect ration for cows. The cheap protein of alfalfa makes it a good and economical food for milk production. One quarter of the soilds of milk are protein now to increase the milk flow by feeding protein foods we must furnish succulency as well as protein. There is a mysterious link here that I have never seen explained; that is, that if protein is not combined with succulency we lose it largely. Try feeding oil cake with corn silage and the cows gain. Feed oil cake with a dry ration and the cows do not respond in a marked degree. Remember I am speaking of well fed cows, for any underfed cow will respond to feed no matter what its character.

The Herd.

The growing heifer needs abundance of protein, so does the cow that is giving milk and dropping a calf each year. When a cow is stinted in protein she will rob her own body for the calf that is coming. Nature's great law is preservation of the species first, not for the older generation. In the lower orders of life the parents often pass away completely. An instance of this is the tick where the young eat the mother's body for their first food and incidentally carry the Texas fever to the next bunch of cattle, if they happen to have had an infected mother. In the cow, if the calf has the first of its mother's milk it can live and thrive without her. It can often do without even this small start in life from its dam, but when the human family is reached then comes that marvelous change of a completely helpless infancy.—M. E. Sherman.

He—I understand two of your sisters have joined the great majority.

She—Yes. One of them married a man named Jones and the other a man named Brown.

BABY PORK.

Baby beef is in high favor these ys with both the producer and conmer. The consumer is willing to y the extra price if the desired ality is forthcoming and all argunts in favor of baby beef are equal- applicable to baby pork. The six seven month's old hog is without ubt the moneymaker for the procer and the satisfactory article for e best class of consumers. There more money and profit in a hog ighing 150 pounds at 7 cents than a 200-pound hog at 5 cents per und or even at 7 cents per pound. is results from the universal truth at the first 10 pounds of any hog is de much cheaper than the second) pounds. Hence the 150-pound g is more profitable than the 200- und one, even at the same price per und. These facts in connection tb the higher price per pound comnded these days by the lighter hog early indicate the logical course to ırsue. In short, the evidence is all favor of quickly grown young pork, ıd seldom if ever can a farmer show est profits from hogs kept longer an six to seven months.

ARIZONA STOCK RANCH.

To grow baby pork successfully, ood pasture must be provided, the gs given a fair chance by coming in- the world strong and lusty, be kept rowing and in prime physical condion from start to finish. Bone and esh forming foods must be fed, and ombined with comfortable and clean- surroundings. Plenty of clean ater to drink at all times is importnt. A stunted pig is bad property s he never really gets over it. Good asture and care may help him but e has lost time and vigor which canot be wholly regained.

Cultivate the acquaintance of your ıogs. Let them know you as a friend. Keep back the dog and handle the ogs so they will know no fear.

FOR FLY TIME.

When the flies become thick, the ilk flow rapidly goes downward. The thoughtful dairymen try to avoid his condition, and use one of the diferent preparations on the market for his purpose. A good spray that can e made up at home is as follows:

ish oil	100 parts
il of tar	50 parts
rude carbolic acid	1 part

This formula, devised by Dr. E. L. Moore of the South Dakota Experinent Station has been found to be uite effective. It is sprayed on to the animals by means of a small hand spray pump, one application being sufficient for two days. The longer between spraying the more thoroughly tbe animals must be gone over. The odor of the preparation does not taint the milk, according to the above veterinarian, but the milk must be removed from the barn at once after milking, which should be done whether a spray is used or not.

Every dairyman knows, as a result of his own observation and experience, generally at no small expense to his bulk account, that flies mean much loss to the production of his herd. If it is impracticable or undesirable to keep the cattle in a dark stable during the day, the dairymen should use either the preparation given above or should purchase a ready made one. In either case, whatever the cost of the preparation may be, it will be more than regained in the increased amount of milk the cows will give. If the flies haven't appeared in your neighborhood yet, don't wait until they get there, but get some preparation and have it on hand so that when the first drove of flies appear you will be ready to fight them. Once the milk flow goes backward it is difficult to increase it again, so don't let the flies get a foothold.—Dairy and Produce Review.

HORNS OR NO HORNS.

That each side of the above question has its honest advocates, both in theory and practice, is an accepted fact, but that the weight of argument is very nearly equal I, for one, am not willing to concede. My observation is that cattle are constituted, in some ways, like people—a portion of them are never quite so happy as when they are taking the advantage of and prodding some other member of the great family. It seems to me the summing up of the argument in favor of the horns is almost wholly in the interests of the ones anxious to do the prodding.

I have seen, many times, innocent members of a herd injured by the borns of an ugly brute many times what it would hurt them to do away with the horns in early life. Take the young calf at about 3 weeks of age, or as soon as the horns start so you can feel them, and clip the hair so as to lay bare a spot the size of a dime. Then, with a five-cent stick of caustic potash, rolled in a piece of paper, or something to hold it by, and the end slightly moistened, rub the little horn until the outside skin peels off.

Care should be taken to make the spot large enough for a smooth job when healed, and not too large, or rubbed deep enough to make it bleed, else you will have more of a sore than is needed. By a little practice and observation, any careful person can soon learn to do it almost exactly right, and in a few years will have a herd of handsome, smooth-headed cattle, a pleasure to look at and to handle, and at least moderately quiet and comfortable with each other.—W. C. Boutwell, in Jersey Bulletin.

ALL HEALTHY COWS SHOULD BREED.

All reasonably healthy cows and heifers should be made to breed. This can be done with little trouble and slight expense if given proper attention. Many a valuable cow or heifer has been sacrificed or disposed of for the reason that she was not made to breed. This may have been due to a lack of proper information pertaining to this subject.

It is very important that a cow, in order to conceive, be in a reasonably healthy condition. The general organs should be in a conditon to perform their functional duties as nature would have them. A lack of secretion or an excess of secretion, renders conception difficult. A lack of ambiton or vigor, or an over amount of either is an unnatural condition of the genital organs. This should be overcome and controlled by the use of breeding tonic, with ingredients that will regulate and control the genital organs.

A cow before breeding should be carefully noticed to make sure there is no unnatural discharge from the vulva. A natural discharge would be a discharge of mucous that has every appearance of the white of an egg, and at the period of heat usually contains a little blood.—By Dr. David Roberts, Wisconsin State Veterinarian.

SHADE.

During summer shade should be provided. This should be rain-proof and of sufficient area to accomodate the entire herd without crowding. Of course if the hog lot is practically timbered, additional shade may not be necessary.

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BETTER THE LOT OF THE FARMER.

President Roosevelt has appointed a commission consisting of Prof. L. H. Bailey of Cornell University, Prof. A. A. Noycs, president of the Massachusetts Institute of Technology and Gifford Pinchot, head of the Forestry Bureau of the Department of Agriculture, as a commission to study into rural conditions and to suggest ways and means of beautifying rural sections and bettering the lot of the farmer socially and intellectually.

The government has in many ways worked to develop new ideas in agriculture and to aid the farmer in solving the many knotty problems before him. It has especially given attention to the control of pests and diseases. But the movement now started will, we believe, result in making the farm and rural life in general more attractive. At least, it should do so. The unattractiveness of farm life to many has been because of the farmers' own lack of appreciating the commercial worth of beauty. A little systematic work done by a trained commission will be all that is necessary to awaken the average farmer to a knowledge which will result in the course of a few years in more atractive rural districts.

"Back to the farm" is the cry of the philanthropist in the city who sees in its congested condition a situation which is not for the good of those who are now crowding city life. But notwithstanding that it is impossible to impress that truth upon the minds of those who are laboring under these unsatisfactory conditions. Let the farmer who has the ability take the step to make these rural communities so attractive, that some of our best people, who are today repelled by the suggestion of country life, will in turn be attracted to it.

No State in the Union has possibilities of greater attractive rural life than has California. It is attractive because of financial return possibly as well as because of the possibilities of beautiful homes surrounding it.

WHITE FLY IN CHECK.

It will greatly allay the fears of citrus growers of the State to learn that reports from the White fly sections are good. The agents of the State Horticultural Commission report that few, if any, eggs or the insects are discoverable, and that the danger of its spreading has been reduced to the lowest point. The infested districts around Marysville and Oroville are being constantly patrolled by agents of the Commission and the greatest possible vigilance is being maintained for any signs of the pest. When we consider the Herculean task the Commission was facing a year ago, too much credit cannot be awarded for the effective work which it has accomplished, and the vigor with which new cases are being watched for. The proverbial needle in the hay stack was an easy problem compared with this minute fly in thousands of acres of orchard.

ASK HELP OF DEPARTMENT.

The California State Board of Trade, in conformity with the request of the California fruit growers at a meeting held recently in the board rooms, has appealed to Secretary James Wilson of the Department of Agriculture for a thorough research into the thrips pest in this State. President Arthur R. Briggs, of the Board, has written Secretary Wilson urging investigation by the Department of this pest. Mr. Briggs said:

> "This pest is considered by many as vastly more serious to the fruit interest than the pear blight, and so little progress has been made in a remedial way during the last two years that the desire for more active investigation is very generally expressed."

The matter of finding a remedy for the thrips in view of the damage it is doing throughout the State is vitally important.

NATIONAL IRRIGATION CONGRESS.

The local committee in charge of the National Irrigation Congress to be held in Albuquerque September 29th to October 3rd, is making preparation for a big and successful convention. The auditorium is capable of seating 4000 delegates. Vice-president Fairbanks has practically promised to come and the committee still has hopes that President Roosevelt will be present.

NAME THE FARM.

In a former Cutivator we suggested that it would be desirable if all who have named their ranches would write and give the name, and we would be glad to publish a list of them in our columns. A few have responded and the list will be started next week.

It will prove an interesting feature if all subscribers will join. Send in your farm name and full address of owner and we will publish.

While the present high prices of grain is causing some discouragement on the part of stock and poultry raisers, especially the latter, the fact should not be lost sight of that this State is still importing vast quantities of dairy and poultry products. This should not be, and we hope will not be much longer. Let the present condition of high prices cause deeper study into more economical methods of feeding by choosing a balanced ration and by buying feeds in largest quantities. The demand upon this coast for these products will increase every day. Let us use years like the present to build up and be prepared for the great business which is surely coming.

Another example for the benefit of co-operation is shown by the results obtained by Tustin apricot growers. They could not sell their cured fruit last fall at any satisfactory price, so they held until February of this year, when they cleaned up 15 cents per pound net to the grower.

The labor situation in Imperial valley reach
an acute stage last week when hundreds of boy
and laboring men from Los Angeles, unable
secure work were exasperated by the introductio
of gangs of Japanese and a small riot occurre
We trust the boys will control themselves in th
matter, which to them may be exasperating,
they were induced to go to Imperial under promis
of abundant work. The situation was caused
part by the cool weather holding back the ripe
ing of the fruit. It is also to be hoped that th
ranchers of Imperial will encourage the white l
borer as much as possible in these times whe
some families are short on bread and butter.

The limit to be placed upon the amount p
duced by a dairy cow, seems to be an unknow
quantity. A few years ago we thought it ha
already been reached, when five and six hundre
pounds of butter were produced in a year by on
animal. The recent test in which one cow pr
duced over 1000 pounds of butter in 12 month
and with dairymen the world over looking
the animal which will beat that record, leads u
to inquire where is the limit. It also leads
to inquire where the average cow with its 130
140 pounds stands. We think it should stand
the shambles, and the cow with the higher p
ductive powers put in her place.

Messrs. Wm. Rieth and H. Wupperman of D
dorf in the Rhine district of Germany, are
California investigating agricultural conditio
Mr. Rieth is getting information more parti
larly as to fruit conditions and methods of cultur
while Mr. Wupperman is giving more attention
the American plan of handling thoroughbred po
try. In this respect he says that the Germ
poultryman is not so far advanced as the Ame
can, as the keeping of thoroughbreds is much l
general among the producing classes than in t
country.

The announcement that the Bureau of Anim
Industry has made a discovery by which vacci
may be administered to hogs which makes th
immune to hog cholera, will cause much satisf
tion on the part of swine raisers the coun
over. It is reported that the process consists
the injection of the blood of a sick animal i
the veins of a well one plus the blood or ser
of an immune animal. The vaccine is produc
by infected blood instead of artificial cultur

Notwithstanding the complaint all over t
State regarding the scant rainfall this year, t
crops are referred to as all the way from "f
condition" to a "bumper crop." This, we thin
is true, unless with the possible exception
prunes, which some claim will not exceed 10 p
cent of a full crop. Even the hay crop, whi
at one time was thought to be a total failure,
coming in with better returns than anticipat
a month ago.

The reappointment of Mr. David Lubin to
former position on the International Institute
Agriculture at Rome, has been received wi
hearty commendation by his many friends in t
State. While all do not receive Mr. Lubin's id
with unqualified approval, yet the belief is g
eral that he is honest in his endeavor to advan
the welfare of the agriculturist and apprecia
the opportunity which permits him to work
his theories.

California fruit growers are looking sidew
at the various proposals of tariff revision. T
suggestion is already made that each commun
should begin to organize to protect the inter
of its principal industry. The California Pro
tion Comittee has called a meeting in San Fr
cisco, July 16th. It is urged that all secti
send representatives.

A great lesson has been taught along the lin
advertising this year by the action of the Fr
Growers' Exchange advertising its oranges in t
markets of Iowa. The results have been so sa
factory that probably a more extended advertisi
campaign will be taken up next year.

So marvelous have been the developments i
the Imperial valley within the past 15 mont
that recent visitors state "all descriptions f
far short of the realty."

This may prove a good year to put in practi
some dry farming operations.

Agricultural Notes of the Pacific Coast

Northern California

olo grain is heavy.

anta Rosa prunes will be a fairly vy crop.

olo county is claiming to be quite itrus section.

ennett valley farmers are busy huring vines.

he Ukiah cannery has an order for 00 cases of tomatoes.

legal warfare is on between two fruit buyers at Woodland.

p to the end of May Vacaville ped 40 cars of green fruit.

erries about Gridley are reported oing exceptionaly well this year.

ie first full car of green fruit out Vinters was about the 1st of June.

uir peaches are reported exception- heavy crop in the orchards about ff.

rigation of beet fields has been ted in all districts about Hamil- City.

mp hay recently set fire to a barn Dixon through spontaneous com- on.

y spring has caused a shortage of oes from the lower Sacramento y section.

nployees of the cannery at Grid- ield their fourteenth annual can- picnic last week.

asta county strawberries have ied their season and logan ber- are now bearing heavily.

ndocino county has 308 acres of which are lying idle this season, over 1400 acres under cultivation.

rham, Butte county, will have an nse crop of wheat and many and tons of hay are being baled.

e reports continue to affirm that ots in the northern part of the will give heaviest crop in its his-

p growers at Biggs have perfect- machine for picking hops which laimed will revolutionize the hop try.

mers at Sebastopol have form- free market association to avail selves of the free market in San isco.

erious plague of grasshoppers has ed the Fall River valley. Crops have been planted, were com- y wiped.

government is advertising for or the Orland Irrigation project. olves the placing of about 13,500 yards of concrete.

ah vegetables and berries are do- ell and yielding large crops this n. Hay and grain are both prov- uch larger crops than anticipat- rlier.

erson finds that her crop of es, plums, pears and apricots ot be reduced by late frosts as as anticipated. The prunes will ceptionally light.

proposed Iron Canyon dam in na county, if constructed, will te about 3,000,000 acres of land Sacramento valley. It will store a 250,000 acre feet.

ysville owners of orange trees, were cut back to defoliate dur- e White fly campaign, are now supplied with navel buds to be ed in the young suckers which sprung up from the defoliated

Central California

Tulare has a new creamery just beginning operations.

It is now thought that $60 per ton will be the starting price on the coming crop of raisins.

California will make $15,000,000 worth of hay this season.

The total hay crop of the State this year will be worth $15,000,000.

June fiesta held at Modesto last week was a scene of great beauty.

Cash for the delivery of fruit is offered by fruit drying firms at Hanford.

Board of Directors of Tulare irrigation district is prospecting for new water supply.

Commissioner Sharp of Kings county is urging a strong fight against Johnson grass.

Stakes set by a band of surveyors wrecked a harvester near Salinas county recently.

It is estimated that there are 16,000 tons of holdover raisins in the San Joaquin valley.

Crops over the San Joaquin valley are vastly better than anticipated earlier in the season.

Lindsay wishes the addition of many outside acres of orange groves to the incorporate limits of the city.

At the annual meeting of the Pajaro valley Board of Trade it was urged that an apple festival be held this fall.

Indications point to great developments in new irrigation system in Stanislaus and San Joaquin counties.

Last year's shipment of apples from Watsonville including those evaporated and converted into vinegar, was 2058.

Hunting tags to the extent of 115,000 were issued to this State last year. The law has proven a remarkable success.

The Tulare County Times predicts that the grain crop of Tulare county will be a surprise to many who have anticipated only complete failure.

An abundant supply of hay presses is on the ranches of San Benito valley. Early in the season the price of $1.60 per ton was demanded, but baling is now done at $1.35.

Fruit dryers of Hanford are contemplating the changing of the fruit cutting schedule. Instead of cutting by the box, the standard this year will be per hundred pounds.

At the regular meeting of the Kings County Fruit Association recently held at Hanford, it was urged that the common schools give more attention to the teaching of agriculture.

State game and fish warden has filed complaint against the gas company of Santa Cruz to prevent the discharge of tar and other poisonous substances which destroy the fish in the river.

Apple growers at Watsonville are in favor of a proposed law in the National Congress controlling the packing of apples, size of package, etc., of all apples exported or shipped from State to State.

A break in the wier of the Kings river near the northeast corner of Kings county, has caused a suspicion that it was done by the explosion of dynamite in order to secure the use of the water on other lands.

Southern California

Tomato shipping is in full swing at Brawley.

Yucaipe cherries are now coming into market.

Calexico proposes to become noted for its tree-lined streets.

Apricots will be later this season owing to the cool weather.

Southern California output of walnuts this year will be about 9000 tons.

Cuttings of black figs planted at Indio this spring are already producing fruit.

The Perris, Allesandro and San Jacinto grain districts are promising a very fair crop.

Apricots at Santa Susana will be a full crop and the fruit promises to be of good quality.

The lima bean acreage will be the biggest this year in the history of Ventura county.

The first full carload of cantaloupes out of Imperial valley was sent from Brawley May 31st.

El Modena gardeners are shipping large quantities of beans and berries to the Los Angeles market.

A grower in Imperial valley is experimenting with a new variety of cantaloupes called the "French Melon."

The price of onions has been rather disappointing this season, but better prices are promised in the near future.

It is now figured that the total output of cantaloupes from the Coachella and Imperial valleys will be somewhat less than 1900 cars.

San Diego takes much satisfaction and profit from the establishing of a lemon juice factory which cans, or bottles, lemon juice.

The San Bernardino and San Gabriel forest reserves have been consolidated and will hereafter be known as the San Gabriel reserve.

Los Angeles County Mutual Fire Association is now carrying about $4,000,000 of fire insurance on the farm buildings of that place.

United States and Mexico have combined in the appointment of a commission to study the divison of the waters of the Colorado rver.

Melon shippers in Imperial valley are given a better express service than in the past. The vines this year are not covered with aphis as last year.

Coachella valley has been making a record on onions this year, one acre having produced over 1000 crates of onions, and one field of 45 acres averaging 600 crates per acre.

The cool weather has seriously retarded the ripening of cantaloupes and hundreds of men and boys who have flocked to the Imperial valley are left without sufficient to keep them employed.

Members of the Woodmen of America in the orange sections of the State are shipping quantities of oranges to Peoria, Illinois, to be given to members of the Grand Camp of Woodmen.

Deciduous fruit growers at Hemet have organized and eelcted the following directors: J.M. Frazier, J. C. Belton, L. L. Newton, W. S. Mudd, William Bruce, Alva Van Winkle and J. A. Nelson.

The Coast

A Wennatchee farmer will ship his coming crop to Australia.

Walla Walla asparagus crop is proving a complete failure this season.

Mexico will produce during the present year approximately 115,00 tons of sugar.

Up to the first of this month strawberries sold in Seattle as high as $5.50 per crate.

Montana is to devote a large tract of land to breeding the American bison or buffalo.

Sheep men of Central Idaho are being driven from the ranges there by lack of pasture.

Washington is shipping heavily of wheat and other grains to supply California demand.

Stock yards of Spokane are to be given a $200,000 packing plant within the coming year.

Yuma has begun shipping melons, and is now sending out some exceptionally fine stock.

The State College at Washington will dispose of a large tract of land now belonging to the college.

A new wool baler and storehouse for storing wool has just been completed at Baker City, Oregon.

May proved to be the busiest May ever in the reecipt of grain at Tacoma. The total was 1135 cars.

The coming Oregon hop yield is estimated at about 100,000 bales, which will be at least 40,000 less than last year.

It is rumored that President Roosevelt will attend the irrigation congress to be held at Albuquerque next September.

Exports of grain from Portland for the month of May, 1908, show a material increase over those of the previous years.

Salt River valley farmers in Arizona are experimenting with asparagus and anticipating the early establishing of a cannery.

Oregon apple growers are somewhat disappointed over the spring sales of cold storage stock. The holdover in the East was much larger than anticipated.

Tests made on the new irrigation system recently installed at Hanford, Washington, which is said to be the largest in the world, proved entirely satisfactory.

Experiments at the Washington State College at Pullman have gone to prove that dust spraying for many insects pests, has met with only indifferent success.

The wheat crop at Horse Heaven, Washington, thought at first to be seriously injured by high winds, is now pronounced to be safe and good for a fair crop.

The grain exports from the Pacific Northwest for the 11 months ending May 31st, were nearly 44,000,000 bushels, or nearly 13,000,000 more bushels than for '06 and '07.

A claim is made that the pumping plant recently erected by the Hanford Irrigation Company, Priest Rapids, Washington, is the largest yet eercted in the world. It has cost over $500,000 and wil pump water to irrigate over 35,000 acres.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

Coulson's Cresolene

Coulson's CRESOLENE LICE KILLER AND DISINFECTANT KILLS DESTROYS CURES Coulson Poultry & Stock Food Co.

**LICE KILLER
DISINFECTANT
AND DIP**

Dilute With Water Before Using

CRESOLENE is a powerful disinfectant, insecticide, and germicide obtained from coal tar. It is non-poisonous, and non-corrosive and will do no harm to the most delicate skin.

It mixes readily with water, forming a milky emulsion, and can be diluted from 50 to 100 times it own bulk, in accordance with the different uses to which it is put.

Thus when you purchase 1 gallon of CRESOLENE you can make up to 100 gallons of the best disinfectant for use with stock, poultry, dogs or as a general disinfectant and insecticide.

This reduces the cost to 1 1-4 cents per gallon which is cheaper than anything else on the market.

PRICES: Quart can, 50c; one-half gallon, 85c; gallon, $1.25.
Freight paid on orders of one gallon or more.
Manufactured by

Coulson Poultry and Stock Food Company
Petaluma, California
Germain Seed Co., Los Angeles, Distributing Agents for So. Cal.

Little Chicks should be fed on **Excelsior Chick Food**

prepared from clean, sound grains, seeds, beef scraps and charcoal in proportions to make a well balanced ration and produce strong, healthy chicks and keep them continually growing. For sale by all dealers and grocers. Take no other.

Excelsior Cereal Milling Company
242 Central Ave., Los Angeles

Black Langshans Well, we won again at Los Angeles. Two firsts, one second, one third on five birds shown. Best stock ever in show room in California. Eggs, $2.00 to $5.00 per 13, $10.00 to $20.00 per 100.

White Rocks Large and vigorous. Improve your stock with a setting or get a fine flock with an incubator lot. Eggs, $1.50 to $2.50 per 13, $8.00 to $12.00 per 100.

S. C. White Leghorns Order eggs now, we have plenty of them. Have had all winter, great big white ones. Eggs, $1.00 to $2.00 per 13, $6.00 to $10.00 per 100.

Phone East 915 **Foster's Poultry Yards, 128 W. Avenue 41, Los Angeles**

White Wyandottes Exclusively
Good, White, Typical Birds. Stock and Eggs For Sale.
W. A. SEYMOUR
470 No. Beaudry Ave. Los Angeles Cal

Now is the time to hatch **BANTAMS**
Golden Sebright, Buff Cochin, and Light Brahma Eggs, $2 per 15. Prize winners.
M. E. Dillingham Box 67, San Gabriel, Cal.

Profit in the Poultry Yar

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed management, disease and its prevention will be answered through these colu

POULTRY FOODS AND FEEDING.

THE present price of grain and mill products and the prospect that they will not be any lower in the near future, will force the poultry people during the coming year to give careful attention to what and how they feed, in order that the balance may not be on the wrong side of the ledger.

A knowledge of the elements of the science of feeding and an application of the same, enables the feeder to get more out of a dollar expended for food than he otherwise would. It is a well established principle, that to keep an animal in a healthy, vigorous condition the food must supply certain compounds. These are known to the chemist as protein, carbohydrates and fats. The protein is rich in nitrogen and is abundant in lean meat, dried blood, bran, alfalfa, etc. While the carbohydrates are represented by starches and sugars, and make up a large per cent of such foods as barley, potatoes and corn. Corn runs high in fat.

Another principle well established in feeding is that a somewhat definite relation should exist between the relative amount of protein, carbohydrate and fats used, i.e., in feeding a pound of protein it should be combined with a certain number of pounds of carbohydrates and fats. This relation is known as a nutritive ratio. In getting this relation the quantity of fat used is multiplied by two and one-fourth and added to the carbohydrates, as a pound of fat is considered equivalent to two and one-fourth pounds of starchy material in doing the work of the body.

Prof. Wheeler of the New York Station believes the best results follow when four and one-half to five pounds of starchy material and fat is combined with one pound of protein.

Amount of Food Required.

Experience shows that 100 laying Leghorns will eat from 18 to 20 pounds of dry food daily, and it should contain two and one-half to three pounds of protein, one-half to one pound of fat and 10 to 11½ pounds of carbohydrates. If these hens are fed 20 pounds of wheat, it would contain of digestible material the following quantities: Protein, 1.84 pounds; carbohydrates, 12.2 pounds and fat 0.24 pounds, and the nutritive ratio would be 1-6.9 much too wide for best result. No single grain will supply a well balanced ration. In the 20 pounds of wheat we havo a sufficient quantity of starchy material, but tho ration is low in protein and fat. It is impossible to feed any ono grain and satisfy the needs of the body in the way of a well balanced ration. It is only by combining several substances that we can get satisfactory results. To illustrate:

A Balanced Ration.

			Pounds Digestible Material		
			Protein	Carboh's	Fat
7	lbs.	wheat contain	0.64	4.27	0.08
2	"	alfalfa hay	0.27	0.74	0.03
2	"	wheat bran	0.22	0.84	0.05
2	"	middlings	0.24	1.07	0.08
5	"	rolled barley	0.47	2.98	0.11
1	"	linseed oil cake	0.26	0.38	0.07
¾	"	blood meal	0.54	0.045	0.075
19¾	"		2.64	10.325	.495

In the above we have 19¾ pounds of a mixture that contains sufficient quantities of the various nutrie the right proportion to meet the n of a hundred Leghorns for on d

The Need of Mineral Matter.

In the above discussion w not considered the mineral ma essential ingredient of all r The food substance contain a c quantity of ash material, but n ficient to meet the needs of the This may be supplied in oyst and bone, and should be sup liberal quantities.—S. S. T.

POULTRY BREVITIES.

Remember grit is as essen chicks as to full grown fowls.

* * *

Barley has as high feeding v wheat and should be substitute cheaper than wheat.

* * *

One chick hatched on the first day is worth a dozen that out on the twenty-second.

* * *

Shrunken wheat has a high ing value than plump wheat a often be bought at a reduced p

* * *

Don't put thick and thin eggs in the same incubator same time and expect a good h

* * *

A little linseed meal is an e addition to the ration for hens the molting period, or for growing feathers.

* * *

Chickens should not be twenty-four to forty-eight hour they are hatched, as nature h piled all they need up to that t

* * *

"The poultry business is no tion for a lazy man. The busin quires more hard and continuou per dollar of profit than any branch of farm work," says a in the Journal of Agriculture.

* * *

Duck Trouble.

Will you please state in umns of your paper the cau cure, if any, of my ducks' d They are nearly three mont have been well cared for, ha running water near their pen u cently; have fresh water in drinking vessels. Their feedi cleaned every day and seem best of health until about 24 h fore they die, when both s their head swell rapidly an seem to choke to death. The slimy mucus discharge fro mouth and seems to gather throats. They have been fed mash, and plenty of it. Their quarters are well protected eyes do not get inflamed or h discharge, as in chicken roup C.

It is difficult to diagnose a the kind here without having portunity to examine dead b am inclined to believe that t ble lies in lack of sufficient keep the air passages of nostr Those become clogged, respir terferred with, discharge of checked, with results as ou your description. I would carefully as to the condition nostrils.

* * *

Roup.

I have 150 hens one-year ol Minorcas mixed with som breeds. They are not doing w get about three dozen eg Fed 10 pounds egg food, all t they will pick off before night; arley just making grain; are it in.

ve three chicken houses 7x10, seem crowded. Their combs osted, not pale; nose runs and ave sore eyes, also sore ears; w thick substance seems to their eyes and ears which has bad odor. I shut the worst p and fed a poultry cure; put diluted in their eyes and ears; oped their heads in coal oil. I olin in drinking water one-half n in three gallons for the flock w days. Can you tell me what matter with them and what I to cure them?—Subscriber,

your description I judge you up in your flock. The disease geous and should be dealt s such. Kill and bury the ases; separate the well from ected birds; disinfect the by thoroughly spraying with disinfectant. You can use for pose crude carbolic acid one o twenty gallons of water. A ne is made by using one-half rude carbolic and one-half henolene in twenty gallons of Apply with a spray pump and very three or four days for hree weeks or until the out-s checked. Use Douglass in the drinking water of both well birds. This is made in wing manner. Dissolve one-nd of sulphate of iron (green n two gallons of water; add ce of sulphuric acid slowly stant stirring; keep in glass earthen jar and add to water in the proportion of a ful to each pint of water. n excellent tonic and acts as ctant in the drinking water. visable to use earthenware dishes, as the mixture has y to corrode tin.

ases in the sick birds may d by pouring a thin film of oil over the surface of a water and dipping the head ected bird in the same; wipe d dry after dipping. Dis-ay be cleared from the nos-kerosene injected.

* * *

for Chickens.

w potatoes fed to chickens eir laying qualities, and you consider the best way nall potatoes? Have a good ich I can't put to any other . S., Long Beach.

t is not probable that the raw potatoes will interfere aying qualities of your hens. ne time I do not consider it method of feeding them.

y as good a way as any to oes, is to boil them and h bran, using bran enough the mixture somewhat n character. The potatoes de the necessary starchy while the bran is rich in lfalfa meal could be used ial substitute for the bran, sometimes found it neces-egin the feeding of this in ntities, as hens do not al-to it readily.—S. S. T.

OTHERLY ROOSTER.

a banty rooster which we aking a record for having motherly instincts. We taking the nest and acting as any old hen could. After veek we gave him six eggs s faithful in his work until the chicks. He is now his little flock and feeds rfection. He has attracted ation in our neighborhood, come to see him calling his s.—Mrs. J. J. A., Uplands.

POULTRY HINTS.

My poultry experience may be of some value to subscribers of the Cultivator. I have 40 hens with which I have three males. I recently set 194 eggs of which 97 were in an incubator and the remainder under the hen. At the first test I only had one infertile egg and the second time I had five. From these I hatched 157 chicks which are now two weeks old and all living.

A little experience I had last fall may be of value so I give it for what it is worth. Many of my young chicks were badly affected in their eyes. Some were even entirely blind so that when I had to feed them I dropped one drop of spirits of camphor in each eye morning and evening and all were soon entirely cured of their affliction.

At another time several had black spots on their combs. I secured 5 cents worth of Red Precipitate, and of this I used a little about the size of a pea thoroughly mixed with a spoonful of lard and five drops of carbolic acid. I touched the black spots with this mixture and they soon disappeared and I now have no sick chicks.

Cleanliness.

I believe in absolute cleanliness of my coops and sweep them each week with a brush, then oil all crevices and the nests. For setting hens I change boxes once during the three weeks, always thoroughly oiling the clean box before putting it in.

Of course I keep good, fresh water at all times, for which I use granite pans. I have spaded a dust ditch which I occasionally dampen at evening with the hose. This makes the dirt very agreeable to the hens to wallow in the next day.

No Lice.

I have no trouble with lice or mites but I do not miss a week without giving them attention. I watch carefully for I do not like sick chicks. If one looks sick I give a pill, which I make as follows: 1 tablespoon flour; ½ teaspoon red pepper; 1 teaspoon lard ½ teaspoon camphor; ½ teaspoon Harlemensis oil; 1 teaspoon coal oil.

Mix these ingredients and make a pill about the size of a pencil and nearly one inch long tapered at one end. Give twice a day. Open the mouth and put small end first and there will be no trouble.

By following these lines I have had good "luck," although I have been in California only 18 months, but I could not get along without the Cultivator, for in it I find so many useful things. —Mrs. Ella Enos, Long Beach.

SURE OF FRESH EGGS.

There is a German dairyman and farmer whose place is not far from Philadelphia who greatly plumes himself upon the absolute superiority of his products above all others in the vicinity.

On one occasion he personally applied to a Germantown housekeeper for a transfer of her custom to himself. "I hears dot you half a lot of drouble mit dot dairyman of yours," he said. "Yust you gif me your custom und dere vill be no drouble!"

"Are your eggs always fresh?" asked the woman.

"Fresh" repeated the German, in an indignant tone. "Let me dell you, madam, dot my hens, nefer lay anything but fresh eggs!"—Harper's Weekly.

A good collection of stock is expected at the State Farm at Davis by October 1st.

FEED YOUR PULLETS

As well as your Laying Hens, on

Coulson's Egg Food

It will bring them to maturity in health and vigor and ensure you lots of eggs in the Fall when prices are high. It can be fed moistened as a mash, or dry in hoppers. Manufactured only by

Coulson Poultry and Stock Food Company
Petaluma, Cal.

GERMAIN SEED CO., Los Angeles, Distributing Agents for Southern California

Send for our Free Book, "Poultry Feeding for Profit"

West Coast Poultry Foods

After July 1st will be made in the new

West Coast Mill

Corner Alhambra and Griffin Aves. (S. P. Track) Los Angeles, Cal.

Mammoth Bronze Turkeys---S. C. White Leghorns

From our large, vigorous White Leghorns, the largest eggs produced by any Leghorn breeder in the West. $1.50 for 15, $7.00 for 100 and $60 for 1000.

To make room for young stock we must dispose of a large number of this year's breeding birds. They are two years old and the pick of our flock and must be sold at once. Write us your needs. The price is right.

STUHR-WILLIAMSON POULTRY COMPANY
378 Bandini Ave. **Home Phone 1490** **Riverside, Cal.**

Trap-Nested White Wyandottes

That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen, contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribbons, all at Los Angeles County Poultry Association Show, December 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah. Hens and Pullets, $15 and $20 per dozen.

MISSION VIEW POULTRY RANCH, MRS. C. D. HUBBARD, SAN FERNANDO, CAL.

EAST SAN GABRIEL EGG RANCH

S. C. White Leghorn and Barred Rock Eggs for hatching, $1 per 13, $5 per 100. Won 12 ribbons at last Breeders Show on White Leghorns. Prize winners, $2 per 13. All hens in our breeding pens are selected, 2-years-old, and are great egg producers.

Swanson & Johnson, San Gabriel, Cal.
San Gabriel Car to Masonic Home then 2 blocks South

HOMERS
Prolific Breeders
Winner of 1st pen at Breeders' Show
Satisfaction Guaranteed
C. E. Bunker
San Jacinto, Cal.

Baldwin's White Leghorns

First prizes San Jose '06, and State Fair '07. Three 1sts and special, San Jose, '07. $50 cup best display Petaluma '07. Send for free '08 Catalogue and price list. Good breeding stock for sale cheap to make room.

Frank E. Baldwin
46 Washington Ave. - San Jose, Cal.

Indian Runner Ducks
Black Langshans

Stock at less than half price to make room for youngsters. Runners at 75c and $1 each. Langshans at $1 and $1.60 each.

CLYDE J. MOSS **Corona, Cal.**

Farmers of Idaho have gone into politics and are demanding the appointment of a railway commission through which they may receive redress from many transportation abuses which now prevail.

A Santa Cruz nurseryman has purchased a carload of calla lily bulbs, which he will use in reproducing for supplying bulbs for the Eastern markets. He now has 700,00 bulbs on hand.

A SUCCULENT DAIRY FOOD.

The advantage of having variety in the food of the dairy cow is more important than many dairymen appreciate. The increase in the flow of milk when a cow is taken from the continuously dry feed and put upon one of greater variety, especially if it contains roots or silage, is often remarked when such change is made. Farmers in California often have the idea that with summer all the year round. there is no necessity for providing silage, and this feeling has been so general that the building of silos is far less general than it should be. The enthusiasm of the dairyman who has begun to use silage after being without it for years is proverbial, and yet the increase in number is still too low.

While many admit that silage for cows has no equal in economy of production and in inducing increased flow of milk, the cost of building the silo, or else the failure to understand the manner of handling tne silage has been such a bugbear as to compel many who really wish to have this desirable adjunct to the dairy to refrain from adding it until a more convenient day. Mrs. Sherman has often given in these columns articles touching upon the cost and manner of construction of silos, also as to method of cutting and storing, yet there often come questions to the office requesting information regarding this valuable food.

Now comes a valuable little "Book on Silage" by F. W. Woll, and published by the Silver Mfg. Co., Salem, Ohio. It is as full of information on silo and its production as an egg of meat. For instance as to the size of silos it says: "Corn silage will weigh from 30 pounds or less to toward 50 pounds per cubic foot, according to the depth of the silo and the amount of moisture contained in the silo. We may take 40 pounds as the average weight per cubic foot of silage. One ton will accordingly take up 50 cubic feet and 100 tons 5000 cubic feet." From this one may readily figure the size of the silo wanted, bearing in mind that, as a rule, it will not be well to feed over 40 pounds of silage per day. Under Eastern conditions 180 days is given as the average silage feeding season. In California this will vary from almost the entire year down to a few months according to local conditions.

One of California's successful farmers who has become a thorough believer in silage as the most economic feed for dairy cows is Mr. Geo. L. Perham of Baden, San Mateo county. A view of his silos and the work of filling appears on this page. He has been very successful in the choice of his cutter and appliances for filling. These were purchased of the Pacific Implement Company of San Francisco, and regarding them Mr. Perham says:

A SAN MATEO COUNTY SILO.

"Last fall I purchased of your firm a No. 12 'Ohio' ensilage cutter with blower and self-feed table, and after using it for cutting corn, barley and oats—using eelctric power—I am ready to say that its efficiency has delighted me, and I think it is an 'all right' machine. The ease of feeding the uniform quality of the cut feed and the capacity are noticeable features. The photograph which I am sending under separate cover shows the machine at work filling one of the two silos on my dairy and poultry farm here. Give the machine sharp knives and the requisite power and it will do the rest."

Corn is the usually preferred crop for the manufacture of silage, and it is not yet too late to plant for this season. Mrs. Sherman has given in her department many good points on the planting and growth of corn. If planted soon the building of silo may then be taken up more at the convenience of the dairyman and by the time the crop is ready for the cutter the machinery and silo may be constructed and put in place.

Silage is an economical food; it increases the milk flow; it is relished by the cow. It is a money maker.

Conserve for the Peop

THE CULTIVATOR has nothing to do with the dispute between the City of Los Angeles and Congressman Smith and others, and many producers in Inyo county, regarding the rights of the city to waters of the Owens river, but there is a principle involved as to the duties of the Forestry Service which we believe makes the following statement by Forester Pinchot educational and at the same time especially valuable.

* * *

Mr. Smith makes two points: First, that the Forest Service in issuing permits for rights of way to water appropriators under the State laws, shows favoritism by preferring a later to an earlier appropriator, or at least claims that it may do so; second, that the Forest Service charges for permits issued to hydro-electric power companies.

The Forest Service has never preferred one citizen or private corporation to another nor has it ever claimed that it had the power to do so. On the contrary, it has declined to inquire into the water rights of contesting applicants further than to require each to show a prima facie water right in accordance with the State laws. If both show such a right the service has refused to inquire as to which of the two has the better right, but has issued permits to both, leaving them to settle all questions of water right in the State courts.

The thing the service has done to which Mr. Smith objects is to prefer a municipality seeking a right of way for a municipal water supply to private citizens and corporations seeking rights of way for personal gain, regarding the use of water by a city for a municipal supply as in a peculiar sense a public use. I, therefore, did what I could to aid the city of Los Angeles in securing the right of way for its aqueduct, which was finally granted it by act of congress, and have recommended, for the protection of the aqueduct from pollution, the inclusion within the Sierra National forest of lands in the valley of the Owens river. This inclusion Mr. Smith strongly opposed. Futhermore, in the exercise of any discretion conferred upon me by law, I shall always prefer the interests of a city or other municipal corporation to those of an individual if the claims of the two are in other respects equal. National forests are reserved and administered primarily for the benefit of the public and only seconarily as an opportunity for money-making by forest users. I am strongly of the opinion that a city, county or other municipal corporation has a higher standing as a representative of the public than any corporation organized for the purpose of money making.

You do not refer to the charge imposed by the Forest Service upon commercial power companies to which Mr. Smith objects. I believe that the permits issued to these companies by the Forest Service are of great value and that the permittees should pay for them as do others who get the exclusive use of national forest lands and resources for commercial profit. If lumbermen must pay for timber, stockmen for grazing permits, hotel keepers for hotel permits, and the like, many of these being men of small means, I can not understand why power companies, most of which are wealthy and powerful corporations should not pay a fair price for they get also. I believe further the president was entirely right he said in his message of Feb 26:

"The material wealth and na resources of the country relate waterways are being steadily sorbed by great monopolies.

"Among these monopolies, a report of the commission point there is no other which threat has ever threatened, such intol interference with the daily life people as the consolidation of panies controlling water power. your special attention to the a of the power corporations, th bills introduced at the present se to escape from the possibility o ernment regulation in the intere the people. These bills are in to enable the corporations t possession in perpetuity of n forest lands for the purposes of business, where and as they wholly without compensation public. Yet the effect of gr such privileges, taken togeth rights already acquired under laws, would be to give away pro of enormous value. Through foresight we have formed the granting without compensat tremely valuable rights amoun monopolies on navigable stre on the public domain. The chase at great expense of wat thus carelessly given away return has already begun in and before long will be nec the West also. No rights water power should be grant corporations in perpetuity, b for a length of time sufficie low them to conduct their profitably. A reasonable should, of course, be made f able rights and privileges whi obtain from the national gov The values for which this c made will untimately, throu natural growth and orderly ment of our population and in reach enormous amounts. share of the increase should guarded for the benefit of the from whose labor it springs. T ceeds thus secured, after the administration and improvem been met, should naturally ed to the development of o waterways."

I believe that it is entirel for the Forest Service to insert able conditions in its powe to prevent monoply. One conditions is that the perm commence construction with cified and complete within specified time which may b only on account of unfor neering obstacles and the is for the purpose of pre permittee from holding wa privileges unused. He mu develop them for the ben public or forfeit his permit

Mr. Smith is mistaken in that I favor a mere revoc for power plants. It is con did that. The act of Febr 1901, (31 Stat. 790) forbid of any other permit than a one. The language of the follows:

"That any permission give Secretary of the Interior provisions of this act may b by him or his successor in tion, and shall not be held any right or easement or to or over any public lan tion or park."

Instead of favoring this

/e advocated legislation which will horize the issue of power permits evocable for a fixed term, except breach of condition. At the re- ıst of the forest service, a clause s inserted in the agricultural ap- priation bill now pending, which ıld have granted this authority. It s stricken out by the house of rep- entatives upon a point of order.

a February and March, a series of ferences were held between repre- tatives of the government and rep- entatives of many large power ıpanies for the purpose of agree- upon legislation on this subject, the demands of the power com- ies were considered by the govern- ıt to be so extreme that no agree- ıt was reached. If the power com- ies are now suffering because their nits are revocable, they have only nselves to blame for that condi- The one obstacle to legislation ıorizing irrevocable permits for a d term was their own opposition t unless other concessions, which president has declared unreason- in the message I have quoted ve, were granted to them at the e time.

r. Smith says that "there is, of se, no objection to charging power panies a fair price for the land use for reservoirs and rights of ." That is precisely the thing, the only thing; the forest service oing. The charge it imposes is for the use of land, not a tax im- d by a sovereign. The value of land for power purposes is meas- by the amount of power actually loped each year, and the charge ixed accordingly. Any private owner having a power site on his would refuse to rent it for its e considered as a wood lot, but d insist on its power value as the of the annual rent. If his prop- were to be taken from him for r purposes by condemnation he d be entitled to its value for such oses. This is clearly stated in case of Boom Co. vs. Patterson, rted in Volume 98 of the U. S. Su- e Court Reports at page 403. In case certain islands in the upper issippi river were taken by con- ıation for a log boom. For any purpose they were worth $300, or boom purposes their value was at $5500, and judgment was for that amount. This judg- , the Supreme Court of the d States affirmed, saying:

determining the value of land opriated for public purposes, the considerations are to be regard- in a sale of property between te parties. The inquiry in such must be what is the property in the market, viewed not mere- th reference to the uses to it is at the time applied, but reference to the uses to which it ainly adapted; that is to say, is it worth from its availability aluable uses. Property is not to emed worthless because the own- lows it to go to waste, or to be ded as valueless because he is le to put it to any use. Others be able to use it, and make it rve the necessities or conven- s of life. Its capability of being thus available gives it a market which can be readily estimated."

ls effectually disposes of the ar- nt of the power companies that could take these power sites the payment of a nominal ;e per acre if the land were sub- to condemnation under the State They certainly could not do so unless the condemnation jury were ignorant of the power value of the land or unmindful of their oaths to do justice.

Congress has declared by the act of 1901, above cited, that the United States shall not alienate its lands permanently for power purposes. The price that the Forest Service charges for renting them for such purposes is not only a fair price, but a very low one. This is shown by the facts that many permits have been taken out subject to the charge; that a much higher initial charge is imposed by the Canadian government upon power plants at Niagara Falls; that at conferences held in Washington late in February and early in March of this year between representatives of the government on the one hand, and of the more important power companies and of banking houses interested in financing power projects on the other, the representatives of the government suggested that the power companies should submit their business to an investigation by the bureau of incorporations for determination of the question whether or not the rate of charge was unreasonable, and no response was ever made to this suggestion; that the charge imposed upon the Edison Electric Company is, by the special statute under which that company is occupying lands in the national forests, required to be "reasonable" and the company has paid the charge for this and the preceding fiscal year, although if it were in fact confiscatory the company would not have been obliged to pay and could have had recourse to the courts for relief; and finally, that careful inquiries made by the forest service as to the value of power sites and the profits of power companies show that the charge is so small that it cannot possibly be any check upon development.

With reference to Mr. Smith's suggestion that the revocation of a permit would inflict hardship on power companies: It is obvious that the power of the government to revoke a permit for breach of condition would compel the permittee to fulfill the conditions. He could not afford to do otherwise, and if he did, and the permit were revoked, a similar permit could be given to any other person or corporation, and the right would be sufficiently valuable to make it certain that there would be no lack of applicants for the permit. There is no danger whatever that the generation of electric power would stop and consumers be thus left without any supply. It is quite possible that a court, for the protection of the power consumers might appoint a reeciver to take charge of the power plant and conduct it in accordance with law and the conditions of the permit, or take proper action to compel the fulfillment of those conditions to insure the service of the public for which the corporation was organized and the permit issued.

The Northwestern Pacific Railroad, the picturesque route of California, traversing Marin, Sonoma, Mendocino, Lake and Humboldt counties, has ready for distribution, "Vacation, 1908," giving full information in regard to camping spots, mineral springs, resorts and country homes and farms to suit every purse and taste. This book can be obtained by applying at Southern Pacific and Santa Fe ticket office, Los Angeles, Cal.

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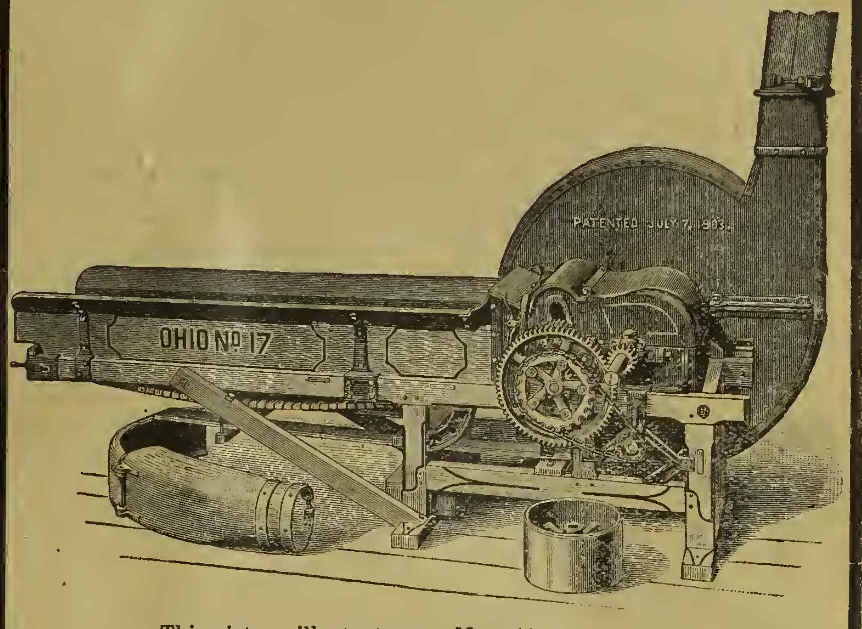

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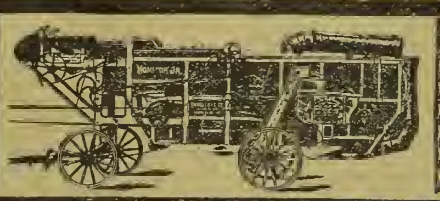

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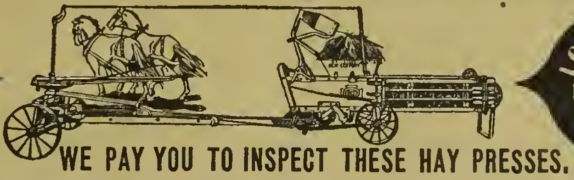

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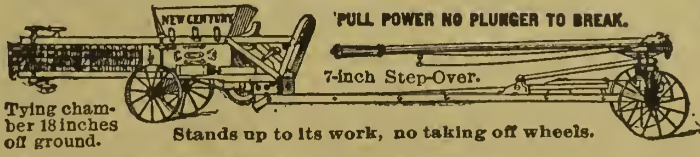
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Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Run Down Orchard.

I bought a ten-acre apricot grove two months ago. The trees are ten years old and have a light crop. The orchard has not been plowed nor irrigated nor pruned in five years. Some of the trees are dead and some are half dead, but seven-eighths of the trees are in fair shape considering the bad care they have had. I am installing a pumping plant to irrigate those trees. What affect will the water have on them? Will it help the fruit at this time or will it hurt them? Will it be wise to plow now? When is the proper time to irrigate and also the proper time to prune? What is the best fertilizer for apricots? When is the best time to set out young peach and plum trees? I have quite a number of those in my apricot orchard; they run hit and miss and are in the way, but they are loaded with young fruit. I have lots of room to transplant them; please to advise. I have fine fruit and vegetable land and would like to know if it is early enough to plant field corn now and what is the best kind to plant. When is the best time to plant the fall crop of potatoes and what is the best kind to plant? Is it necessary to use any fertilizer? If so, what kind shall I use and how? My land is a heavy loam and is in fair order.—W. E. G., Anaheim.

Irrigation at this time will have but little benefit for the apricots now ripening, but would put the trees in condition to bear better crop next year. If you do not irrigate at once, do so as soon as fruit is off. That will give vigor to the tree and thus form more fruit buds for next year. After irrigating, disk or cultivate thoroughly. If you wish to stimulate bud growth and a bigger crop next year prune after this year's fruit is off. To stimulate stronger wood growth, which perhaps you need, prune when trees are dormant. Stable manure is best. If you can't afford enough of that, supplement with commercial fertilizer.

Plant young peaches and plums when dormant—December to February. The ones you speak of are probably not worth the planting. It costs too much to pump water and care for an orchard to start in with any other than first class young trees. For that reason it may be a question as to the bulk of your apricot orchard being worth cultivating after five years of neglect. You will probably be richer to dig out and start in with new, vigorous trees.

You can plant corn now, but do it soon. If for sweet corn, plant Oregon Evergreen or Stowells' Evergreen. If for ordinary field corn, Reid's Yellow Dent or White Cap Yellow Dent are good.

Plant all potatoes during July. Early Rose or Burbanks are good varieties though your neighbors will be your best authorities as to best variety for your section. Necessity for use of fertilizer depends on condition of soil. For potatoes it will probably be wise to apply fertilizer rich in potash.

Planting Dewberries.

Please inform me when and how far apart to plant dewberries. How and when should they be pruned?—J. B., Alpaugh.

Plant from January 1st to March 1st. Plant in rows five feet apart and about two feet apart in the row. Water and cultivate well and when any cane reaches 15 inches in length nip it off the end and when the laterals are thrown out clip them back to 10 or 12 inches. Allow not more than five or six of the strongest canes to grow and thin out the weaker ones. By going over them every two or three weeks throughout the summer this pruning can be easily and rapidly done and by the close of the season you will have stocky, well ripened bushes with large bearing capacity with no expense of trellising. The following season it will be necessary to cut back the strong shoots that come up from the crown very much as you did the first season.

As soon as the crop is off cut out the old wood that has borne the crop and treat the new growth just as you did the first year. The Lucretia, if you get it true, is the best variety and in California worth all other varieties combined. It is unsurpassed for flavor in canning, being superior to any known variety of blackberry.—Q. A. L.

Toads.

Will you please tell me how to get rid of toads. They croak so I can't sleep good. There are some in the turnips and some in the water tanks.—T. H. K., West Saticoy.

Don't get rid of toads. They are too valuable in garden and ranch. Rather cultivate them. Probably you mean frogs. They are lusty singers. How to get rid of them we cannot say unless you drain all pools where they congregate.

Charges for Recipes.

C. F. R. of Hemet asks the Cultivator to tell him whether he can lawfully sell recipes which he has discovered, one to cure chickens of roup; one to break setting hens and make them lay in three to six days; and one, a splendid remedy for piles. There is nothing to prevent him from advertising and charging for the same, and if he will send us his full name we will give him, by letter, the further information he desires.

Tomatoes Dropping.

Will you kindly state in your paper the reason for tomatoes dropping blossoms with short piece of stem attached? There seems to be a joint in the stem which breaks off.—J. V. B., Ripon.

Cold weather is probably the reason. We will ask Mr. Lobinger to prescribe remedy if there is any.

Drying Fruit.

Please give information for drying peaches and pears as practiced in California?—H. B., Chiles, Cal.

It's a long subject. Will try and give some information next week.

Unprofitable Nectarines.

I am a reader of your paper and find many valuable articles from week to week of a helpful nature, especially to the small rancher. In this connection I wish to say that I have among my trees two white nectarines which have never borne any fruit. They are rank and healthy growers and bloom profusely, but never seem to reach fruit age. In fact, I think the bloom all falls off. Is there any remedy except to replant with other trees?—W. G. S., Pomona.

You, no doubt, have the Victoria nectarine, which is noted for being a shy bearer in your vicinity. Lord Napier is another. You can convert your trees into Stanwick or Downton, either of which will bear to suit you I am sure. They are red and not quite so fine in quality as the two first named, but they are good. good way to do is to cut off the and bud into the sprouts. If you not want to keep them as nectarin bud them to peaches or apric plums or any stone fruit. It wo be folly to cut them out if they strong and healthy.—J. W. M.

Destroying Rabbits.

Please explain Pasteur's metho destroying rabbits. Can anyone ply the method? What expense i tached to the method and how —W. O. S., Coachella.

We do not know, but think it the same as inoculating rats is done by mixing the virus food and left where rats will e We think you may secure informa by writing the Pasteur Vaccine San Francisco or Chicago.

Soil Analysis.

I would like to make some an ses for determining the amount o kali in the soil here. The lan spotted and it would be impo to send away enough samples to an accurate estimate. I wish to

Creamery Supplies
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25 CAR LOADS NOW BEING UNLOADED
250,000 feet of this shipment is se ond-hand pipe, practically as good a new, and is now on sale at a big discount by the Adams Pipe Works, 2 Bay street. Sizes and prices: ¼ i 1½ cents per foot; 3-8 inch, 2 cents foot; ½ inch, 2½ cents per foot; inch 3½ cents per foot; 1 inch, cents per foot; 1¼ inch, 6 cents p foot; 1½ inch, 7 cents per foot; 2 inc 9¾ cents per foot; 2½ inch, 15 ce per foot; 3 inch, 18 cents per foot; 3 inch, 20 cents per foot; 4 inch, 32 ce per foot.
Oil well casing prices and sizes. inch, 7 cents per foot; 2½ inch, 9 ce per foot; 3 inch, 13½ cents per foo 3¼ inch, 15 cents per foot; 3½ in 17 cents per foot; 4 inch, 18 cents per foot. All pipe is carefully inspect new coupling and new thread are p on every piece, every joint is guar teed to be first-class, serviceable pi This pipe is sold in any amount; sm orders are given the same attenti as large ones. Mail orders promptly filled. To reach the Adams Pi Works, take car marked Pacific Boule vard, starting east on 7th St. fr Broadway. All lines will transfer East 7th St. new line. Ask conduct to let you off at Bay St., and go ea half-block. Phones, A1917, Broadw 1264. Los Angeles, Cal.

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ere is a simple method that I use to determine the amount of i carried by the soil at different ıs and places.—F. V. W., Braw-

·ite to Director Experiment Sta- College of Agriculture, Univer- Berkeley, for blanks and instruc- . The analysis will be made ›ut charge. We think it will be ssible to make any satisfactory ʼsis except you have the knowl- of an expert, unless by actual of seeds and plants on the spots, :an satisfy yourself.

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uts.

ase inform me through your col- as to the culture of peanuts, i.e., nce apart of rows, distance apart lls; as to how often to irrigate, to plant, etc.—D. L. A., Madera.

the Cultivator of April 23, page for article on peanut growing.

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ewash.

ll you kindly send me a recipe mixing whitewash for buildings, will not crack and peel off?—J. F., Watsonville.

e addition of a handful of salt, dissolved, to a bucket of white- will make it stick. There are complicated formulas, but this ective for rough buildings.

JARRAH WILL NOT GROW.

your issue of May 21st I note inquiry with regard to the euca- ıs Marginata or Jarrah. For t seven or eight years I have experimenting on a small scale this tree. Having read of its y excellent qualities I procured and after considerable difficulty eeded in getting about fifty plants enough to set out. These all during the summer although bet- ared for than several other varie- of eucalyptus that did very well. same season.

e next year I tried again with no r success. I then determined to ast raise one or two specimen if nothing more, but although I had fairly good success with t fifty varieties of eucalyptus, the inata has proven too much for me ıis climate. I have managed to them to grow very well in my house where the atmosphere l be kept warm and moist, and been able to keep them alive for ıg time in my lath house, but in- ıbly when put out in the open have died within a year or two at no time have they made more a very indifferent growth under most favorable conditions I could them.

y land is situated about 20 miles the coast at an altitude of about feet. Winters are warm enough raise Citriodora Lehmanni and r tender varieties of eucalyptus. I well protected from the desert ls by a range of hills so that it ld seem as if my place was much e favorably situated than most hes in California for such experi- ts, but it is evident that the Jar- will grow only in locations having mer, moister atmosphere than any- g around here. I should like to from any one who has made a ess of this tree if it has grown in fornia.—J. H. Dodson, Forest Nur- , El Cajon.

'une growers at San Jose who over their crop of prunes are rebelling at the injustice of the collector listing such prunes for tion after the grower has paid his s on farm and on the trees.

STATE FAIR PREMIUM LISTS.

The California State Agricultural Society has issued the premium list for its fifty-fifth annual exposition, which will be held at Sacramento, August 29th to September 5, 1908. The book has over 100 pages of information regarding regular and special premiums. A great fair is planned for this fall. Copies may be had of J. A. Filcher, secretary, Sacramento.

* * *

We also have the premium list of the First Annual Colorado Inter-state Fair and Exposition to be held in Denver September 7-12, 1908.

This association is spending $150,000 for buildings and improvement this year and promises a great showing of products of Colorado. G. C. Fuller, secretary, Denver, will mail lists to interested parties.

HOLSTEIN-FRESIAN ANNUAL MEETING.

The annual meeting of the Holstein-Fresian Association of America was held at Syracuse, N. Y., June 3, 1908. Hon. O. U. Kellogg, president, called the meeting to order, 156 members being present and 707 responded by proxy.

The keynote of the president's address was the subject of tuberculosis, and he urged federal legislation to secure uniform laws and reliable veterinarians to administer the test, and deprecated the present agitation in New York tending towards indiscriminate slaughter. On motion of Hon. P. B. McLennan of Supreme Court Bench of New York State a resolution was adopted to take up the general question of treating cattle for tuberculosis and to try to bring about the passage of laws which will be uniform in the different States and free from the provisions which, with the tuberculin accompaniments, are considered by cattle breeders and farmers to be unfair. This committee consists of President O. U. Kellogg, Secretary F. L. Houghton, E. A. Powell of Syracuse, N. Y., F. F. Field of Brockton, Mass., and R. C. Reed of Howell, Mich.

The report of the treasurer showed an income for the year of $33,055.50 and a balance of $70,499.78. The report of the Superintendent of Advanced Registry showed 2055 animals had been entered on records of butter fat. The largest record during 1907 was that of Colantha 4th's Johanna, which for 7 days reached 28.17 pounds of butter fat and exceeded all other records by cows of this or other breeds and crowns this Holstein as the queen of all cows. Her year's test by Wisconsin State Experiment Station recently reported was 998.2 pounds butterfat; also the greatest yield of any cow in the world to date.

The report of the secretary, F. L. Houghton, Brattleboro, Vt., showed registration of 16,534 animals during the year, exceeding those of all other dairy breeds by over 5000 entries; and a balance turned over to the treasurer of $31,337.43. Membership increased by 360 accessions to over 2100 total. Appropriations were made for Advanced Registry butterfat prizes, exhibitions at fairs and other purposes, amounting to $11,750. The election of officers resulted in the re-election of President Kellogg and Secretary Houghton, and three changes, including the election of J. N. Connyham of Wilkes-Barre, Pa., and I. Dalyrmple of Otselic, N. Y., to the Board of Directors and William Everson of Lake Mills, N. Y., as 2d vice-president.—F. L. Houghton, secretary.

POULTRY BREEDERS' MEETING.

The poultry breeders of Southern California will hold their regular monthly meeting in Assembly Hall, Chamber of Commerce Building, south Broadway, Los Angeles, June 25, 1908. At this meeting officers for the ensuing year will be nominated. A full attendance is desired.

A NEW IMPERIAL.

An event to take place within the next few months that will prove of the utmost importance and interest to the farmers and homeseekers throughout the United States and Canada, is the opening up for settlers of the valley of the Yaqui river.

This valley lies on the eastern coast of the Gulf of Lower California, about 275 miles south of the boundary line of the United States, and is on the Yaqui river division of south Southern Pacific Railway. The soil and climatic conditions are almost identical with those of the now world famous Imperial valley.

The work of taking the water out of the Yaqui river and distributing it over the 550,000 acres of land that comprise this valley is being rapidly pushed to completion and the owners expect to be able to offer the land to small investors late in the fall or early winter.

Owing to the fact that a great many thousand dollars are needed to complete these developments, it has been decided to offer a few thousand acres in large tracts of not less than 1000 acres each, at a price that will attract both speculators and the more conservative investors. It will be possible for the next 60 days, to buy 1000 acres at $12.50 per acre, and this price will include a permanent water right entitling the owner to use such water as he may require, at the rate of 50 cents per acre foot. O. A. Vickrey & Company, 308 South Hill street, have been appointed sole selling agents. Any further information may be obtained at their offices.

Farmers should count noses over the pig pen daily.

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

Classified Liners

Rates 1½ cents per word per issue. No ad accepted for less than 25 cents. Our classified columns are the clearing house for the readers of the Cultivator. Here you can insert an ad for the small sum of 1½ cents per word per issue, and be sure that it will be read by thousands.

DOGS.

SABLE AND WHITE COLLIE PUPPIES—Sires, Brandane Wishaw Squire and Glen Fana Bounder, litter brother to Aufield Model. Dams, Ormskirk Gloriana and Presidio Nellie. $10 to $25; 2 to 8 months. GLENALPINE KENNELS, Grandville, Cal.

FARM LANDS FOR SALE.

FOR SALE OR EXCHANGE FOR ORANGE or Los Angeles Co. walnut land. Improved or unimproved 140-acre mountain fruit ranch; 20 acres apples and peaches; 15 acres grapes; 2 acres berries; 10 acres drained bottom land; 20 acres hay or corn land. Balance in timber. 10 living springs. 7-room house, 2 barns; 1 mile to school. Postoffice and station. Price, $15,000. WILLIAM RICHARD, Eccles., Santa Cruz Co., Cal.

FOR SALE—1 TO 10-ACRE TRACTS ON CAR line, between Riverside and new cement works; good for chicken ranches, alfalfa or gardening; will sell on easy terms; plenty of water on each tract. C. C. POND & N. R. BELL, Riverside, Cal.

FOR SALE—TWENTY AND FORTY acres, level, good land. Fine for chickens, berries, etc. $30 per acre. Very easy terms. No irrigation required. WM. MANTZ, Santa Maria, Cal.

FOR SALE—12 ACRES TOKAY GRAPES—Will net 20 per cent on purchase price this year. $2500 cash will buy it. A snap if taken at once. For Particulars, address C. Strange, Lodi, Cal.

MACHINERY.

FOR SALE AT A BARGAIN—2nd. HAND 10 H. P. Lambert Gas Engine almost new with guarantee. Can be seen at Capito Carriage Co. Repository and factory, 12th and MAIN ST., LOS ANGELES, CAL.

FOR SALE—20-H. P. FAIRBANKS-MORSE distillate engine guaranteed the same as new. Also pump and other equipment. BAILIE & BRANDT CO., 943 N. Main St., Los Angeles.

FOR SALE—AT HALF ACTUAL VALUE No. 7 U. S. Cream Separator, good as new. One No. 9 machine new, to close out. K. B. Norswing, 5833 S. Main St., Los Angeles.

CHEAP FOR CASH—SMALL BELTED AIR compressor in good working order. N. W. cor MAIN & BRUNO STS., Los Angeles.

FOR SALE—IN A-1 CONDITION 21-H. P. Otto gasoline engine at a snap. 117 BRUNO St., Los Angeles.

POULTRY

BUFF ORPINGTONS—WOULD YOU LIKE the very best at the price of common stock? Sullivan's COMMONWEALTH STRAIN you may have at HALF FRICE FOR THE BALANCE OF THE SEASON. Write us and learn the reason; get record and illustrated catalogue FREE.—MR. & MRS. W. S. SULLIVAN, Agnew, Santa Clara Co., Cal.

FOR SALE AT A BARGAIN—THIRTY yearling W. Leghorn hens and 30 yearling White Rock hens. The best of stock perfectly healthy and laying. Address J. W. WHITNEY, R. F. D. NO. 2, BOX 162, LONG BEACH, CAL.

KILLAMITE KILLS THEM—BEST INSECT powder made for fowls or plants. 50c for 2½ lb. sifting can, express prepaid by us if your dealer hasn't it. WEST COAST MILL. 818 San Fernando St., Los Angeles, Cal.

FOR SALE OR EXCHANGE—(FOR BLACK Minorca chickens, turkeys or geese): Thoroughbred Belgian hares, does $1.50, bucks $2.00; thoroughbred Giant Runts, $2.00 each; Black Minorcas eggs, $1.25 per setting. L. F. STERNSMANN, Wrights, Cal.

SILVER LACED WYANDOTTES—BEST stock on the coast. 9 ribbons on 10 entries at late Chutes Park show. Eggs, $1.50 per 15. FAIRVIEW POULTRY YARDS, A. E. NELSON, El Monte, Cal.

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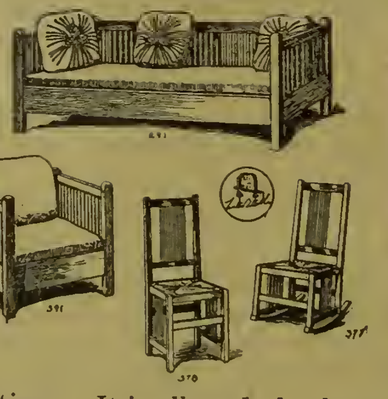

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Household Departme

THE GOAT WOULD NOT STAY.

I bought a goat from "way out West,"
 Said to be very fine,
With pedigree way up in G,
 Long as a pumpkin vine.
I wanted him to head my flock;
 Their names do not appear
Upon the roll of honer, for
 They boast no silky hair.

The pasture I turned Sir William on
 When we came home that night
From what I learned next morning
 Failed to suit his appetite.
That blessed goat had crossed the fence,
 And mowed my field of corn,
Which made me so all-fired mad,
 I wished he'd ne'er been born.

His climbing, Bill continued still,
 And I began to fence,
But every day on the topmost rail
 He would do the "cake-walk" dance.
He scaled a fence full six feet high;
 He barked all fruit trees found;
He kept my neighbors fighting mad
 For full five miles around.

His hair is long and silky;
 Worth forty cents, they say,
But I am sadly troubled—
 Can I keep him? Will it pay?
I don't see how the cussed thing
 Can live and eat such stuff;
For everything he sees he eats
 And never gets enough.

But worst of all, alas! my flock,
 Who never knew to climb,
When turned into the pasture now
 Will scale out every time.
For with association comes
 A longing for degree;
They seem to want their names enrolled
 In the book of Pedigree!

At last I'm happy, for you see
 My neighbor has the goat,
Henceforth I'll be centent with those
 That lack the silky coat;
For joy after sadness cemes
 And pleasure after pain,
We've parted, and I'm praying
 Shall never meet again.

C.—Maud, in Farm and Rancher.

BLACKETT GIRLS' REVOLT.

"I'VE SOME good news for you, Marion," said Harry Preston to his wife as he took his seat one night at the dinner table. "You remember the vacant land I beught in the suburbs a few years ago? I sold it today to a syndicate for a clean fifty thousand cash, and it cost me just five thousand. Now, with your approval, I am going to do what has been in my mind a long time, and that is to buy a place in town for my mother's sisters. There's a pretty house for sale three blocks below us on the corner which I think would just suit them. They would be near enough for us to look after them, and they would be as independent as they are now. They are getting almost too old to live alone, especially so far from any neighbors."

"Oh, Harry," said Marion, "that will be one of the best things you ever did. I have thought so much abeut your aunts since I stayed those two weeks with them last summer."

"I'm wild to see your aunts settled here," said Marion, as they were taking a final survey of the house.

The little town of Knowlesville lies at the bottom of a natural basin surrounded by gently sloping hills, which shut it away from a too curious world. Near the top of one of these hills and a mile and a half from the village, stood a gray, weather-worn house, the home of the Misses Blackett, or as they were familiarly known in the community, the Blackett girls, though the youngest of them had passed the half-century mark. The house stood in what the country folks called a "sightly place." its wide kitchen windows one see down to the village, and b the village glimpses were had c road which zigzagged back and across the hill and finally slippe of sight over the top.

"I never could abide to live i village," said the elder Miss Bl one fine, crisp morning in Octob she sat in her accustomed pla the corner kitchen window and l out over the landscape. "I th when I was down there t'other seemed 's if a body couldn't br shut in with houses each side right in front of ye, and may barn in the back. And then ye see but the leetlest mite of sky hills shut it off, I s'pose. Wh here we can see hundreds of ac sky, yes, and thousands, too, was measured," opening the wi as she spoke and thrusting eu head as if to take a mental surv the sky acreage.

"Yes, indeed," asserted Miss A Blackett, who was busy polish basket of Juicy Cut apples and ping each in a bit of newspaper, one reason why I shouldn't li live down in the village is you'd never know when com'ny comin' till they was rappin' a door. Here we can see folks f half hour 'fore they get here, and a chance to slick up a little."

"Better look 'round now and we're ready for com'ny, for body's turned off the lower read ours," was Miss Almina Blac warning from her post at the s window where she was washin breakfast dishes.

The elder Miss Blackett had al spied the traveler and divined his sonality.

"That's Mis' Howard's Hikey," said. "He's goin' over to the Tur huskin', and I asked his ma te let bring along our mail, if so be come. It's time we had a letter Henry."

"Yes," said Alzina, who had Hikey at the door, "we've got a l from Henry and five newspa That'll do to do up the best P Sourins. I was most afraid would have to go unwrapped.

The letter and papers were la the high chimney piece, for net the work was done weuld they the letter or open the papers. W the proper time came the elder Blackett cut the envelope care and drew out the letter and re aloud.

"My Dear Aunts" it ran: "Ma and I are coming to make you a visit. We shall arrive on Satu the fifteenth, and when we re which will be the following We day, we are geing to take all thr you back with us for a visit. shall not take 'no' for an answ got ready as much as you can. Marion will help you when she c Your loving nephew, Harry Prest

The three sisters looked at other.

"Comin' Saturday," said Al "and wants us to go back with Wednesday. Guess we'll have to, when Henry makes up his mind can't turn him. But what'll we with Chirpet and Mrs. Doodle Colonel and the hens?"

"We can think about that late said Miss Blackett. "What we've to do now is to clean the house company."

The Prestons were energetic peo

lld not waste time planning; so day found them at the farm, and iesday they were back home and Henry's aunts with them, the and the roosters and the old cow g been placed with country neigh- The Misses Blackett protested , but all protests were ignored erridden. The next two weeks rush times for the elderly sis- sightseeing and going about, un- e evening they simply had to

ıw, haven't you enjoyed this vis- aid Mr. Preston, on the last even- f their stay, "and don't you think ity a pretty nice place to live

s," said Albina, "the city is nice. You don't have much e to get lonesome here."

next morning the sisters were into the carriage, which was sibly to take them to the sta- Marion and Harry accompanying After a short drive they ed before a pretty house.

get out here," said Harry.

," said Alzina," "I thought it ırther to the depot, and I opined a bigger buildin', but 'twas in ght we came, and I guess I was ' flustrated."

sisters were helped out and cted into the house. Miss Al- rheumatic knees hurt her cruel- t she heroically refrained from anything. She would soon be me where she could groan as as she pleased. They passed h a hall, and Mr. Preston d a door into a bright and cher- ing-room.

r they had gone over the home, Preston told them it was theirs ıey were to live there.

but Henry, we couldn't," they med in chorus.

, you could," answered Preston. ng I could do for you would up for your kindness to mother e."

was so little, Henry, and be- ve can't live——"

you can't live on your little , so you are to spend that for re or charity or whatever you I pay all the running expenses house, so you won't have any- o worry about. And now good- larion and I will leave you to quainted with your new home, 'll be in again today."

Albina, after the first moment, ınk down on the couch. Her ooked white and drawn.

afraid I can't go another step," id, "for my knees hurt that bad keep from groanin'."

ina and Alzina flew to her side.

y, Albina Blackett, and you said a word about it. And look Almina, her poor knees are n up like puff-balls. Get some ınnels right off, and where's the of opedildoc?"

n Marion came in the afternoon ound Albina in bed swathed in ınnels, and Almina and Alzina with woe-begone faces beside

na's rheumatism, probably ag- ed by her unusual exercise and ıre to drafts, kept her in bed ı long weeks, and when she was o leave it she could not have a journey, even if the change not in itself have been disas- It was hard for the visitors to d with folded hands. The sit- om table was filled with books ıagazines, but the keen delight they had taken in the stray which had come through the mail was lost in the present surfeit. They grew homesick.

"My, I do wish we could go back early enough to make a little maple sweet'nen.' But we can't tap in April," said Almina.

"The first of April can't come any too soon to please me," said Albina. "I can hear—good land! how that scart me," she exclaimed, as the door-bell clanged loudly. "I never can get used to that bell. You go, Almina. I'm that upset I can't."

Presently Almina returned with a letter. It was from Mr. Preston.

"I have something to tell you that I'm sure will please you," he wrote. "I met a wealthy New Yorker here who is planning to buy a place in the country where his children can run wild and where he can go for a few weeks' rest himself during the summer. I thought of your place directly, and he is going to see it on his return and thinks it will please him. If it does he won't haggle at the price, and you can get a pretty penny for it, for of course you will never go back there to live. I expect to be home the thirtieth of March, and we can have the whole thing settled by the first of May."

Albina folded the letter and laid it down.

"What day of the month is it?"

"The 20th," said Alzina.

"I guess we can pack and get started for home tomorrow if we hurry, can't we?"

Almina and Alzina hurriedly left the room without replying, but the sound of trunks bumping from one stair to another as they were being dragged down from the attic told Albina she was answered in the affirmative.

It was late in the afternoon of the next day when the three Blackett girls, their cat and their canary stood on the doorstep of the little gray house. Almina fitted the key to the lock, opened the door, walked to the fireplace and lighted the kindlings laid when they went away, wound the clock, pulled up the shades and bade her sisters come in. Colonel, let loose from his basket, raced from room to room and cut all sorts of capers to show his joy at the home-coming. Albina sat down by the kitchen window and looked her fill at field and sky.

"Oh, girls," she said, "I ain't drawn a long breath since I went away, and now it seems as though I couldn't breathe deep enough or long enough. And I can't acount fer the sky, there's ten times as much as there was when we went away!"

Alzina lighted a candle and went down cellar. Presently she returned carrying a quantity of apples in her upturned dress skirt.

"There's a lot of sprouts on the cabbages," she said." We'll have some seasoned with pepper and salt and girls, ain't it good to have a real vinegar for our supper. And, oh! home?"—Journal of Agriculture.

RECIPES.

Baking Powder.

It is cheaper to compound baking powder at home rather than buy it in cans. To one pound, two ounces cream of tartar, take one-half pound of baking soda and put with it from one-eight to one-fourth pound of corn starch as a drier. Mix thoroughly by sifting six or eight times and can tightly. It is less harmful than alum baking powders.

Frosting Without Eggs.

Make boiled frosting without eggs. It never runs off or cracks. Take two cups of sugar and a half cup water, stirring until it hairs, then set aside to cool. When the bottom of the pan feels nearly cold begin to beat the syrup. If it begins to get hard add a few drops hot water. When it turns white it is ready to spread on the cake. By adding a few drops of hot water from time to time every bit that is in the pan can be used. The sides of cakes can be covered for it will stay where you put it. Chocolate frosting can be made by shaving chocolate in it.

Peanut Cookies.

Cream one cup of butter with one cup of sugar, add three eggs, beaten separately, one teaspoonful of soda dissolved in two tablespoonfuls of hot water, a teaspoonful of lemon extract, one coffee cup of shelled peanuts rolled fine and flour to make a soft dough. Roll thin, cut out, dip each cookie in beaten egg and rolled peanuts and bake in a quick oven.

Ham Salad.

Chop lean, cold boiled ham until the pieces are the size of peas. Chop fine half as much celery or lettuce as ham. Line a dish thickly with lettuce leaves and fill with the ham and celery. Turn the following dressing over the whole just before serving. Half cup of vinegar, one small teaspoonful of sugar, butter half the size of an egg and a dash of pepper and mustard. Put over the fire and when boiling hot stir in one-half teaspoon of cornstarch which has been mixed with a teaspoonful of cold water. Beat one egg very light and add just before removing from the fire. Add half a cup of thick cream if desired. Cool before using.

Waffles.

Excellent waffles are made from a heaping tablespoon of butter, melted, a little salt, two teacups of sour milk, in which is stirred a level teaspoon of soda, two eggs and enough flour to make a good drop batter. Beat the whites of the eggs separately. Grease the iron with lard and be sure of a good fire to bake the waffles just right.

HOMELY HINTS.

In Case of Fire.

All children should be taught what to do in case the clothes catch fire. They should not only be told, but questioned and examined as to their knowledge, until it is firmly fixed in their minds. In the first place it should be impressed upon them that they are never to run in such a case, but to throw themselves at once on the ground. The next thing is to wrap the burning individual in a shawl, rug, blanket, piece of carpet, coat, anything that will exclude the air, for fire cannot burn without air. It is well to remember, also, that cotton burns easily and wool does not.

To Extract a Splinter.

A bit of home surgery, stated to have been practiced when a splinter is driven into a child's hand particularly deep, is its extraction by steam. A bottle with a sufficiently wide mouth is filled two-thirds with very hot water, and the mouth of the bottle is placed under the injured spot. The suction draws the flesh down when a little pressure is used, and the steam in a moment or two extracts inflammation and splinter together. This is very efficacious when the offending substance has been in for several hours, long enough to have started some of its evil consequences.

Attention Ladies

The Champion Ironing Board is the simplest and, at the same time, the most practical and convenient device of its kind ever placed on the market. It can be adjusted to any table. It is always ready for use. It meets all the labor saving requirements of the busy housewife. Delivered to your R. R. Station for $2. Sold by

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The Produce Markets

Los Angeles Markets

LOS ANGELES, June 17, 1908.

Butter is up another 2½ cent notch, and now stands at 52½ for extra creamery. Market is firm with only fairly liberal receipts. Quotations are as follows with sales 2½ cents in advance of quotations in the fancy grades:

Creamery ex per roll	52½
Firsts	50
Dairy	25
Cooking	21
"Butterine"	15@20
Eastern extras	50

Cheese.

Southern California	15
Northern fresh	14½
Longhorn	16¼
Eastern singles	15
Cheddars	17
Imported Swiss	30
Swiss	18½
Oregon	18
Limburger	17½

Eggs and Poultry.

Eastern eggs have been marked up, but local candled indicate a weakness and lower than quoted last week. It is thought the strengthening of the market on locals will result from the higher price on Easterns.

Eggs local candled	22½
Eggs case count	20@20½
Firsts fresh	23
Eastern fresh	21
Storage Eastern	19½@20
Hens per lb	10@12
Young roosters per lb	17
Fryers	17@20
Broilers per lb	15@18
Roasters	16
Old Roosters	7
Turkeys	16@18
Geese	11@13
Ducks	10@12
Squabs	1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds	6¼ @6½
Prime steers	4¼@4½
Heifers	3½@4
Calves per lb	4½@5
Sheep ewes per head	3.75@4.00
Lambs per head	3.00@3.25
Wethers	4.00@4.50

Potatoes.

Highlands	1.25
Early Rose	1.70@2.25
Burbanks	1.40@1.50
Salinas	1.25@1.50
Sweet potatoes per sack	3.75@4.00
Sweet white	3.00
Oregons	1.60
White Rose new	1.40@1.55
New potatoes per lb	1.45
Lompoc	1.50@1.60

Onions.

Bermudas per 100	1.75@1.90
Bermuda per crate	1.25@1.30
Silverskins new	1.25@1.50
Crystal wax per crate	1.25
Northern Red	1.10@1.25
Garlic	7

Vegetables.

Artichoke per box	50
Asparagus per lb	8@9
Asparagus green per box	1.50
Beets per doz	35
Bell peppers per lb	15
Beans limas per lb	10@12
Beans green	3½@4
Cabbage sack	45@50
Cabbage red per lb	2
Celery per doz	60@75
Celery Golden Heart	60
Corn per doz	85
Chili peppers per lb	7
Cucumbers per doz	60@75
Cauliflower per doz	1.00
Carrots per doz	35
Egg plant lb	6@10
Green onions doz bunches	20@30
Horseradish	9@10
Lettuce per crate	1.10
Mint per box	40
Okra	20
Peas sugar per lb	4@4½
Parsley	30
Parsnips	35@40
Rhubarb per box	50@1.00
Rhubarb northern	1.50
Radishes per doz	15@20
New summer squash per box	75
Summer squash per lb	1½@2
Salsify	15@20
Spinach per doz	15@17½
Turnips doz bunches	35
Tomatoes per box	1.00@1.15

Citrus Fruits.

Navels fy	2.50@2.75
Navels ch	1.25@2.00
Valencias	2.50@3.00
Tangerines	2.00
Culls	40@80
Grapefruit seedless	2.75@3.00
Grapefruit seedlings	1.50@1.75
Lemons fancy	1.00@1.25
Lemons choice	75@1.00
Limes 15-lb box	75

Fresh Fruits.

Bellefleurs	2.00@2.25
Baldwins	1.50@1.75
Greenings	2.25@2.75
Pippins 4-tier	1.50@1.75
W W Pearmains	2.00@2.30
Red Astrachans new	75
Cal Ben Davis	1.75@2.00
Apricots per lug box	75@1.00
Cantaloupes Standard	1.75
Cantaloupe ponies	1.25@1.50
Cantaloupes specials	40
Cherries	65@75
Cherries black per lb	6@7
Royal Annes	75@80
Currants per box	1.00@2.00
Dewberries	4
Figs 8 lb box	1.25@1.50
Grapes Thompson seedless	1.50
Plums per box	1.50
Peaches per lug box	75@1.00
Raspberries	1½@3
Strawberries	2@3
Extra fancy	10
Blackberries	2@4
Loganberries	3@4
Gooseberries	7@8
Watermelons per lb	1½@2

Dried Fruits.

Apricots	12@14
Evap. apples fy per lb	7
Figs loose white	5
Figs blk	4
Peaches	10
Pears	12½
Nectarines	14
Prunes	4@4½

Beans Dried.

Limas per ctl	5.50@5.75
Pink No 1	3.80
Lady Washington	4.50@4.75
Small white	4.80
Black Eyes	3.80@4.00
Garvanzas	4.80@5.00
Lentils	9@10
Bayou	3.90@4.00

Nuts.

Almonds per lb	15@17½
Pecans polished	16@17
Peanuts Virginia	8½
Peanuts California	8½
Walnuts No 1 SS	14

Honey.

Extracted Water White	7¼@7½
Extracted white	7
Comb W W	16
Comb light amber	12½@14

Hay.

Price paid to producers f. o. b. Los Angeles are as follows:

Barley No 1	13.00@15.00
Barley No 2	12.00@14.00
Alfalfa northern per ton	12.00@13.00
Alfalfa local	12.50@14.00
Plain oat No 1	15.00@17.00
Wheat No 1	13.00@15.00
Wheat No 2	12.00@14.00

Grain.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl	1.90
Wheat in 100-lb sacks	1.95
Kaffir corn	1.80
Barley	1.55
Corn Eastern sacked	1.90
White oats	1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn	1.95
Shorts	1.80
Bran	1.65
Oil cake meal	2.50
Feed meal	2.00
Rolled barley	1.70

EASY WAY OF SWARMING.

Most apiarists think it an advantage to let the bees swarm once and with all the queens' wings clipped, when the swarm comes forth the queen is caught in a Miller queen-catcher cage as she is crawling around in front of the entrance. The old hive is then removed to a new stand and an empty one put in front of the entrance. The bees, on discovering the absence of the queen, will soon return pellmell to the old stand. The surplus chamber, if there was one on the old hive, is put on the new one now on the old stand. This manner of catching the swarm is so little labor that the women-folks do not object to it as there is no handling of the swarm itself, no climbing of trees after it and it is all done, practically, by catching the queen.—Denver Field and Farm.

San Francisco Markets

SAN FRANCISCO, June 16, 1908.

Butter.

Sellers have large supplies of butter on hand and have seased buying so heavilly, and prices have declined a cent a pound during the week. Present condition is rather easy.

California extras per lb	23
California firsts	22½
California seconds	22
Fresh packing stock	21
Fresh packing stock No 2	20½

Cheese.

California young American fy	13½
Firsts	13
California flats fy	11½
Firsts	11
Young America fy	14½
Eastern fy	16
Oregon fancy	13

Eggs and Poultry.

The egg market is firm at present quotations, which is a cent a dozen under last week's.

Fresh ranch eggs	23
Eggs firsts per doz	22
Eggs second per doz	19
Eggs thirds	18
Eastern seconds	17
Hens per doz	5.00@6.50
Hens extra	6.50@7.50
Young roosters	7.50@8.50
Old roosters	3.50@4.50
Fryers per doz	6.00@7.00
Broilers per doz	3.00@4.00
Geese per pair	1.75@2.00
Goslings per pair	2.00@2.50
Ducks young	4.00@5.00
Turkeys per lb	14@16
Pigeons	1.35@1.50

Live Stock.

Steers No 1	3¾@4
Do second quality	3¼@3½
No 1 cows and heifers	3@3¼
Hogs 80 to 200 lbs	6@6¼
Hogs 200 to 300 lbs	5¾
Calves per lb	3½@4½
Lambs spring	5@5½
Wethers No 1	4
Ewes No 1	3½

Potatoes.

Oregon Burbanks	1.25@1.35
Sweets per crate	2.50@3.00
New potatoes per ctl	1.00@1.50

Vegetables.

Asparagus per lb	2½@5
Bell peppers	12½@15
Celery per doz	35@50
Cucumbers per doz	40@50
Chili peppers per lb	8@10
Corn per doz	15@30
Egg plant per lb	5@6
Green peas per sack	1.00@2.00
Squash per box	50@60
Onions green per box	50@60
Rhubarb per box	65@1.00
Tomatoes	75@1.00
String beans	3@4
Wax beans	2@4
Garlic new	4@5

Onions.

Oregon yellow	3.50@4.00
Eastern red	90@1.10
Bermudas per crate	50@65
Australian Brown	3.00@3.50
Red	85@90
Silverskins	1.00@1.10

Citrus Fruits.

Navels fy	2.50@3.75
Navels ch	1.90@2.10
Valencias fancy	3.50@3.75
Grapefruit seedless	3.50@4.00
Grapefruit seedlings	1.75@2.25
Tangerines	1.50@2.00
Lemons	2.75@3.00
Limes	5.00@5.50

Fresh Fruits.

Newtons	1.65@2.00
Spitzenberg	1.75@2.00
New green per box	60@75
Apricots per box	25@50
Blackberries per chest	4.00@7.00
Cherries white per drawer	35@60
Cherries Royal Annes	40@50
Cherries bulk	2½@4
Currants per chest	6.00@8.00
Figs per crate	1.75@2.00
Gooseberries per chest	1.00
Gooseberries per lb	3@7
Loganberries per crate	75
Logans per chest	3.50@5.00
Melons specials	50@65
Melons ponies	1.50@2.00
Melons st	3.25
Plums per box cherry	30@50
Plums Clymans	40@60
Plums Tragedy	1.00@1.50
Peaches per box	25@75
Aligator pears per doz	7.00@9.00
Raspberries per crate	1.50@1.75
Raspberries per chest	11.00@14.00
Strawberries per ½ crate	1.00
Longworths per chest	7.00@10.00

Dried Fruits.

New crop contracts for future delivery, 25-lb. lots—Apricots, per lb.: Standards, 6½@6¾c; choice, 6¾@7c.; fancy, 8@8½c.

Peaches—Standards, 5½@5¾c; c
5¾@6c; fancy, 6½@7c.

Apples (evap.)	
Apricots per lb	
Figs white	2¼
Nectarines	1
Plums pitted	1
Peaches	
Pears	5
Prunes 4-size bag basis	2¾

Raisins—1907 crop, f. o. b.: Clu
and Layers, 20-lb. bxs—Imperial
ters, 6-crown, $2; Dehesa Cluster
crown, $1.75; Fancy Clusters, 4-cr
$1.40; London Layers, 3-crown,
do, 2-crown, $1.05. Seeded, 25-lb.
Fancy bulk, per lb., 5½@6c,
bulk, 5½@6c. Loose Muscatels,
bxs—Standard, 4-crown, 4c; do
crown, 3¾c; do, 2-crown, 3½c,
less, 3¾c. Seedless Sultanas—
bleached, 4¼@4½c. Thompson
less—Unbleached, 4½@4¾c.
grapes, 3c.

Beans Dried.

Limas	5.00
Pink	3.25
Small white	4.35
Large white	4.35
Lady Washington	3.45
Black eyes	3.25
Red kidneys	2.75
Garvanzas	2.25@
Bayo	3.1
Horse beans	2.25

Hops.

Hops per lb	3½
Hops old fancy	

Honey.

Clear white comb	1
Amber	1
Extracted	7½
Beeswax No 1 per lb	2
Beeswax No. 2 per lb	2

Hay.

Somers & Co. say:

In many districts the farmers
holding for extreme figures whi
are inclined to believe will not
realized this season. Consumers
being forced to economize and
buying from hand to mouth only
der the present range of prices.
cannot believe that the market c
greatly depressed this season n
the other hand do we think
either the crop or trade condi
warrant us in anticipating a y
high prices. We incline to th
that a range that may be cons
moderate to both producers and
sumers will prevail throughout
year.

Choice wheat hay	16.00@
Good wheat hay	13.50
Other grades same	11.50
Wheat and oat	12.00
Tame oat	11.50
Wild oat	10.00@
Stock hay	8.00 to
Alfalfa	9.00
Straw, per bale	5

Grain.

Wheat No 1	1.62½
Barley No 1	1.37½
Corn small yellow	1.75
Oats white	1.5
Oats gray	1.52½@

Feed Stuff.

Bran per ton	32.00@
Feed cornmeal per ton	39.00@
Cracked corn per ton	40.00@
Rolled barley per ton	31.00@
Oil cake meal per ton	38.00
Cocoanut cakes per ton	28.00
Middlings	34.00

Citrus Market

LOS ANGELES, June 17, 1

Weather conditions and high
of Valencias together with vast q
tities of small local fruits in all
kets, has depressed the orange
ket and prices are not so satisfa
The situation is not by any
serious, and when the Fourth of
trade cleans up the market it is p
able a firmer tone will prevail

Lemons are seriously affect
weather conditions and the im
importations of foreigns. This c
nation will lower prices to the ex
that imports will probably les
market be corrected soon.

Shipments.

Citrus shipments since Nov 1,
gregate 24,891 cars, of which 2600
were lemons. To same date last y
23,313, of which 2277 were lemon

NEW YORK, June 15.—Si
navels, three mixed, two St. Mich
three Valencias, three Seedl
two sweets sold. Market very du
poor quality and stock having de
Demand very active on all vari
showing good qualities and
Weather muggy and rainy.

S— Avg.
ar ex ch F H Spe & Co $1.55
L V W Brown........ 1.10
ch L V Brown.......... 3.45
Ft Ex........ .... 3.45
Ft Ex.......... .... 1.85
Ft Ex...... .... 2.60
S A Ft Ex...... ...... 2.25
Nat Or Co...... .... 4.00
Nat Or Co........ ..... 2.65
NGS—
o r Penn Ft Co......... 2.05
ch J Curtiss Ft Co.... 1.70
ch Patee & Lett....... 1.40
e Riv Ft Ex............ 2.30
CIAS—
h run E Peycke Co.... 3.85
ch o r E Peycke Co 3.40
Ft Ex...... .... 4.50
M Ft Ex............ .... 4.00
not T C C Ft Ex........ 2.85
Bells A B Chapman 4.05
emories st...... .... 3.45
Nat O Co........ .... 4.50
ERRANEAN SWEETS—
o r E Peycke Co........ 2.20
A Ft Ex.... .... 2.55
be Riv Ft Ex........... 3.30
be Riv Ft Ex........... 2.10
irl Grs Ft Co............ 3.45
y o r Benchley Ft Co.... 3.35
ch Benchley Ft Co.... 2.85
ny ch Fullerton.......... 2.25
ICHAELS—Boxes—
... . 2.55
Deal....... .... 2.10
obe....... .... 3.75
ICHAELS—Half boxes—
be..... .... 1.35
be............ .... 1.15
.... 1.35
EFRUIT—
xes seedless—Cerrito...... 2.20
NS—
.... 2.40

N, June 15.—Twelve cars eather warm. Market is n regular sizes. Twelve cars .

LS—
art Highgrove Ft Ex..... 4.15
T Ft Ex......... .... 3.60
"off bloom" A C G...... 2.20
tch S B Ft Ex............ 3.10
ls........ .... 2.30
Highgrove Ft Ex.......... 3.25
S T Ft Ex......... ...... 3.45
o r Nat Or Co........... 3.80
B Ft Ex........... ...... 2.65
TS—
K Ft Ex......... .... 3.60
T Ft Ex.................. 3.85
n o r Penn Ft Co.......... 2.30
be Riv Ft Ex.............. 2.75
S T Ft Ex....... .... 2.95
ICHAELS—
relA H Ft Ex........ .... 3.40
ree A H Ft Ex............ 2.80
Blanca A H Ft Ex........ 2.30
NCIAS—
C G Ft Ex................ 4.65
.... 4.15
LINGS—
n o r Penn Ft Co.......... 2.15
ODS—
Malta S T Ft Ex........... 3.25
—Malta...... .... 2.80
ONS—
S B Ft Ex........ .... 2.65
S B Ft Ex....... .... 2.25
loma Riv Ft Ex............ 2.75

LADELPHIA, June 15.—Two avels, three St. Michaels, one one seedling, one Valencia, one and one car lemons sold. er cloudy, warm and raining. t firm on good fruit. Six cars ack.

VELS—
light S S Ft Ex............ 2.94
Hawk off bloom A H Ft Ex 1.26
Brand S S Ft Ex............ 2.60
der ex ch Altland Ft Co... 2.68
DLINGS—
ss o r F H Speich & Co..... 3.03
EETS—
ff bloom......... .... 2.90
os S B Ft Ex......... ..... 3.15
S B Ft Ex......... .... 2.81

Orchid fy Altland Ft Co.......... 3.07
VALENCIAS—
Aurora fy o r E Peycke.......... 4.12
LEMONS—
Las Fuentas Crocker Sperry Co.. 2.13
Defender ex ch Altland Ft Co.... 2.71

PITTSBURG, June 15.—Fourteen cars sold. Eighteen on track. Market unchanged. Weather cloudy.

NAVELS—
Black Hawk off bloom A H Ft Ex 1.40
Hunter off bloom A C G Ex...... 2.00
Duck S A Ft Ex........ .... 1.40
Pan American off bloom C Ft Ex 2.00
Red C off bloom C Ft Ex.......... 1.75
Climax ex ch o r E Peycke...... 2.75
ST. MICHAELS—
Carmencita S T Ft Ex........... 2.70
Uncle Sam R Ft Ex............... 3.20
Pond Lily R F t Ex............... 2.60
SWEETS—
Fiesta R Ft Ex....... .... 2.65
Orchid......... .... 2.95
Camellia ex fy R H O Co.......... 2.00
SEEDLINGS—
Titus Ranch....... ....3.15
Toreador....... .... 2.70
LEMONS—
La Paloma R Ft Ex.............. 2.40
Housewife 1.75
Housewife cases..... .... 2.45
La Paloma cases.... .... 2.45
Liberty A W Wohlford...... .... 2.00
Foxaway....... .... 1.90

ST. LOUIS, June 15.—Weather cool. Market is strong on oranges, owing to light arrivals. Market is firm on good stock lemons. Six cars sold. Five on track.

NAVELS—
Pan American off bloom C Ft Ex 2.65
SEEDLINGS—
Valle Vista............. .... 1.35
Native fy o r S F Co.............. 2.90
HAVANAS—
Selected fy N W Blanchard...... 3.15
Choice....... .... 2.95
VALENCIAS—
Mountain Lion fy F H Speich.... 3.85
LEMONS—
Excellent S P C F A....... ...... 2.00
Sunnyside....... .... 1.70
Greyhound S A Ft Ex....... .... 2.65
Duck...... .... 1.85

CLEVELAND, June 15.—Weather cool. Market is weak on lemons. Firm on good stock oranges. Two cars sold. Seven on track.

NAVELS—
Pan American off bloom C Ft Ex 2.35
LEMONS—
San Dimas......... .... 2.75
Greyhound........... .... 2.60
Duck......... .... 2.20

CINCINNATI, June 15.—Weather cool. Market is weak and declining. Five cars sold. Seven on track.

NAVELS—
Hawk S A Ft Ex......... .... 2.60
Duck S A Ft Ex......... .... 2.05
BUDDED—
Hummingbird R Ft Ex............ 2.30
SWEETS—
Hummingbird..... .... 2.50
Pet S A Ft Ex........... .... 2.80
ST. MICHAELS—
Hummingbird....... .... 2.75
Pet S A Ft Ex......... .... 2.65
VALENCIAS—
Silence ex ch Flagler Ft Co...... 3.65
Crybaby st............ .... 3.45
LEMONS—
Greyhound S A Ft Ex............ 2.30
Duck.......... .... 1.85

It is most necessary that producers deal honestly with the consumers in order to build up the market. It is evident that good honey should bear a higher price. When ripened up by the bees it is predigested and is very wholesome.

Eastern San Joaquin county will harvest a magnificent yield of wheat this season.

TABLE GRAPE[illegible]S.

Continued from p[illegible]age 671.

Courtesy.

Loving kindness is [illegible] the best way of managing workers. [illegible] goes a long way. A little kindness girls. That is [illegible] with women and should always be the reason there the head. A cu[illegible] a capable woman at little hot soup [illegible] of tea at noon or a these faithful [illegible] not much to give them comforta[illegible]nes, and it makes work. [illegible]ble for the afternoon's

Loving the [illegible] way to be faithful to it. The romance of the grape surrounds the workers, and year after year the youths and maidens find their life partners in the packing house. The history of their lives begin in the packing house, and reality takes place of the dreams of youth in which nothing was impossible of achievement. Surely, this building up of happy homes makes the watchful care of a good woman worth while. "Yes." As my forewoman used to say each season when we drove around to notify the grils to come to the packing house, "yes," she would say, "as usual we ran a matrimonial bureau at the ranch, and my best girls are married off." It is all life, however, and the grapes were well packed and none the worse for the little romances going on around them.

THE KINGSTOWN FIRE.

Dong-g-g!

Before I came to myself I was sitting bolt upright in bed.

Was it nightmare? I pinched myself. No, I was wide wake.

"Ding-dong, Fire!" echoed through the midnight air. And with one bound I was out of bed. In another instant, dressed and on the street.

"She's a goner!" yelled Jim Wilson, as he shot by the house.

"Who—what—where?" But he was gone; and like a flash I followed my natural instinct and the firelit heavens, to the other side of town.

"They're working like Trojans, but they can't save her."

"What is it?" I asked, as I caught up to Simeon Sheldon.

"The old mill. There! Can't you see the flames licking up the lumber sheds this very minute?" Sure enough. I saw them only too plainly.

"Serves 'em right—"

"Hold on, Sim," I interrupted. "What do you mean by talking that way?"

"Yes, it does! They knew what a risk they've been running with those old 'tinder-box' shingle roofs—and right alongside the railroad, too. Everybody says it was sparks from the midnight freight did it—and I guess they're right. It started on the roof of No. 1 mill."

"Look at those houses opposite. Why didn't they catch fire, too?"

"That's easy. They're covered with Genasco. See those sparks dropping on 'em now! They burn out, and don't have the least bit effect on 'em"

"What's that name, Sim? [illegible]witched! kind of stuff is it?"

"Stuff? Well, [illegible] you've never heard [illegible] Genasco Ready Roofing, made by the Barber Asphalt Paving Company, Philadelphia? Where have you been living all your life—in the back woods?"

I was willing to be "the goat," and asked for more information.

"It's the greatest stuff I've ever seen for a roof," Simeon went on, "not only for resisting fire, but for lasting in all kinds of weather. You can let it pour pitchforks, and it won't leak; or let the sun boil down on it all you've a mind to, and it'll never dry out like coal tar. Even zero weather won't crack it. The farmers around here have taken to it like ducks take to water. You see it on all their buildings whenever you go out in the country. It's a wonder, I tell you. And by the way, it's made of stuff from what they call the Eighth Wonder of the World—Trinidad Asphalt Lake. You can find out more about it than I'll be able to tell you in a month of Sundays, if you write to them Barber people for their Good Roof Guide Book."

"Yes sir,, the mill people might have had their old shacks still standing if they'd used a ittle common sense before it was too late. Any fool can learn from his own experience, but I tell you it's a wise man that learns from the experience of others."

"You're dead right, Sim. I'm going to remember that. Meantime, I've got to turn in and get my sleep out."

The extracted honey should be ripe before it is extracted, and each grade of honey should be extracted by itself so that the consumer can get the kind he wants and that there may be no mixed grades. Each dealer should have one, two and five and fifty-pound packages with a showy label, giving the name of the honey, as to its kind, the name of the grower and of the apiary. These should be sealed so that they cannot be tampered with without breaking the seal. This is made necessary by the bad reputation extracted honey has had by being adulterated.

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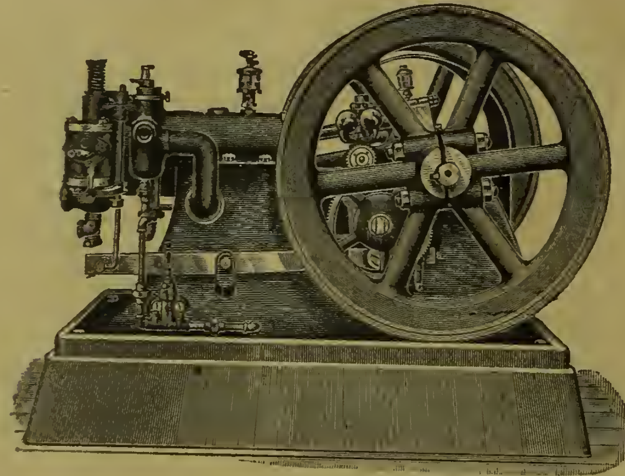

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no valves or plungers
or get out of order, no
consequently no noise or
ing of teeth.

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capacity of well.

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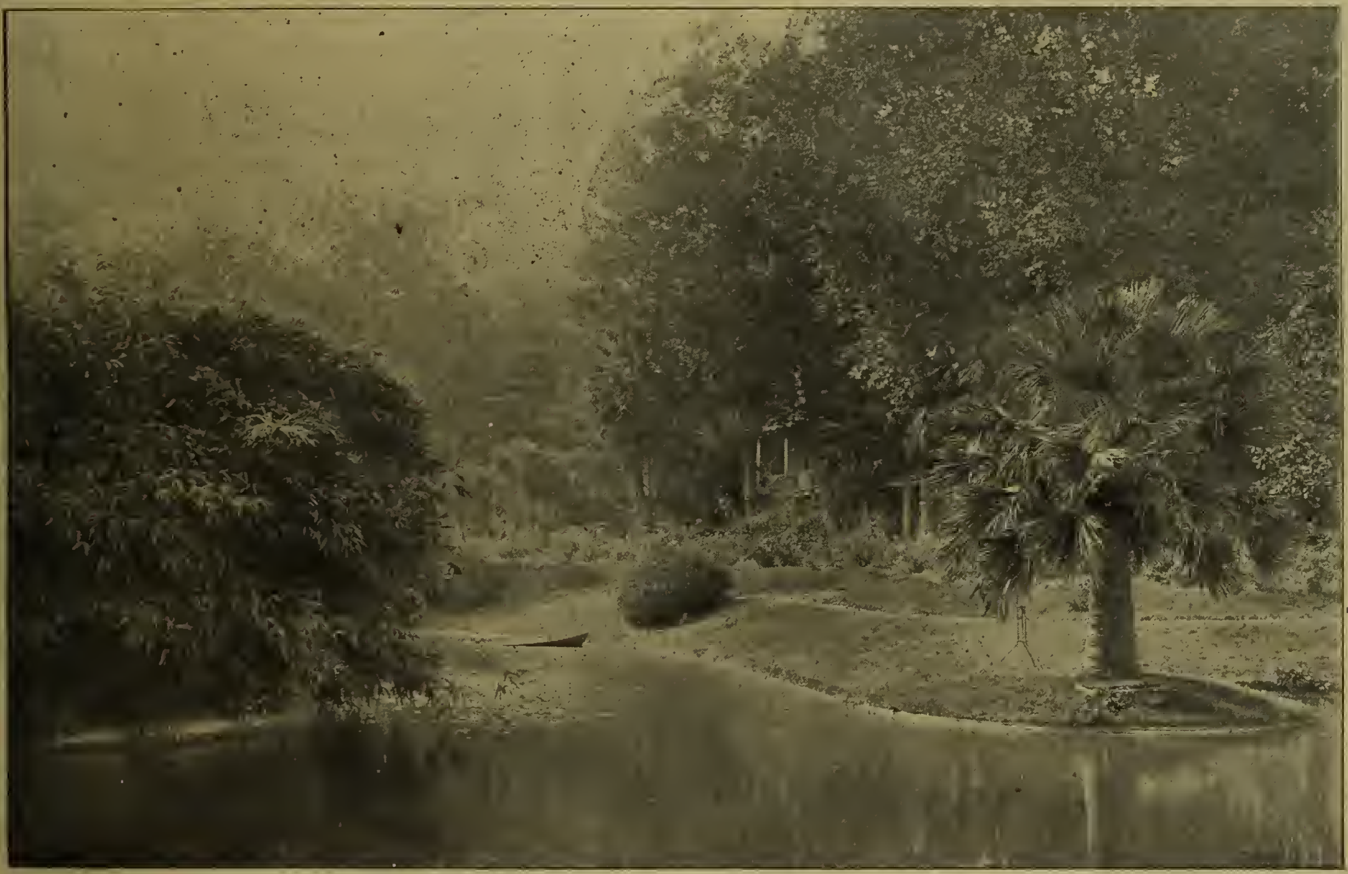
Midwinter in the Santa Clara Valley



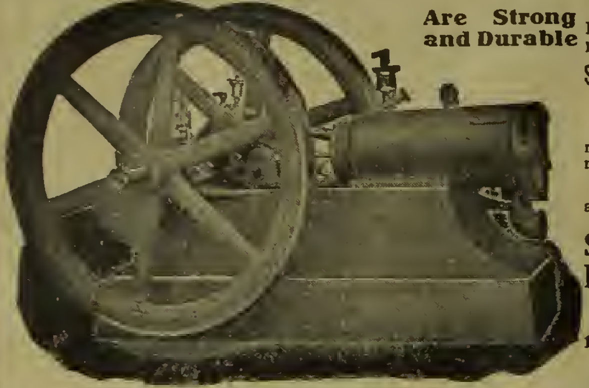
IN A POET'S GARDEN.

RED roses that a poet's hand have nurtured into bloom—
How softly bold in color, and how daring in perfume!
Their fragrance moves the soul to peace, yet holy passion wakes;
She might lay them on her breast—and die for their sweet sakes.

Shy rosebuds that a poet's breath has since their birth bedewed,
Fondled 'gainst Juno's paling cheek might bring glad youth renewed.
In folded petals, cool, though wrought of southern light and heat,
Are crimson hues, which yet with warmth some waiting hearts will greet.

White jasmine that a poet's eyes, so full of tender gloom,
Have beamed upon in pity, thinking of its transient bloom,
Ah, who would sigh beholding now its beauty quickly wane,
Since still, to perfume life's sad morn, his verses blithe remain?

Out West Magazine, Los Angeles.



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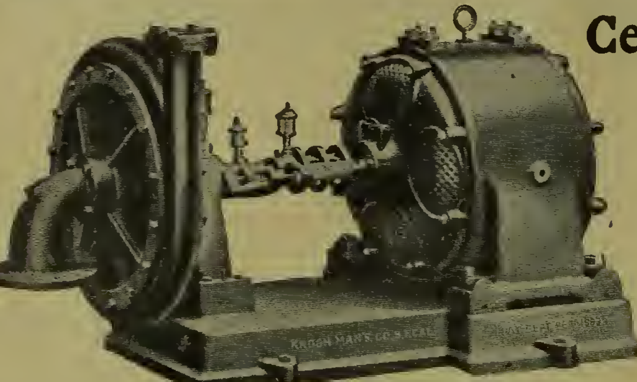

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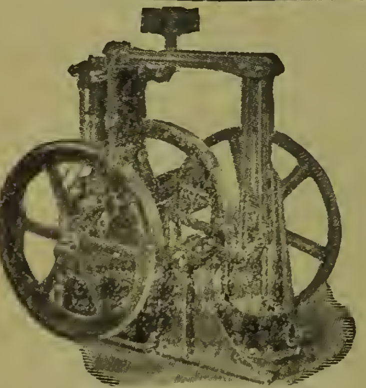

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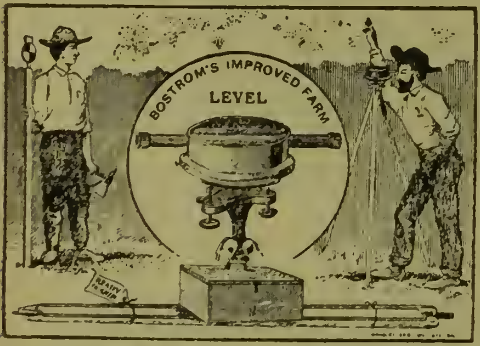

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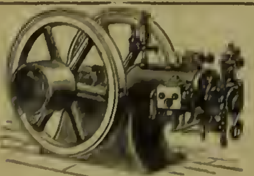

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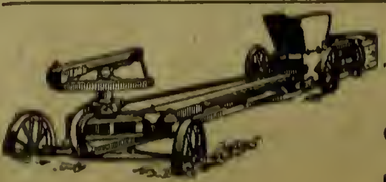

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California Cultivator

ol. XXX—No. 26 Los Angeles, California, Thursday, June 25, 1908 Subscription $1 a Year

A Menace to Deciduous Fruits

Steps Taken to Make More Thorough Investigation of the Pear Thrips and Methods of Control. Meeting Called by State Board of Trade.

OR some years prune and pear growers in Santa Clara valley and within a few miles of San Francisco bay have suffered im- nse losses from the depredation of the pear ips. The Santa Clara valley prune growers re the first to become alarmed at the ravages this minute insect, which was first discovered Mr. E. M. Ehrhorn, at that time entomologist Santa Clara county. Mr. Dudley Moulton n became County Entomologist and took up work which Mr. Ehrhorn had inaugurated made quite extensive experiments, and tinued the study of the life habits of the .

ater Mr. Moulton was transferred to the De- ment of Agriculture, and under Chief Ento- ogist Howard has continued these investiga- s. This culminated last year in the issuance Bulletin No. 68, entitled the "Pear Thrips." he damage done by these mites is done by ring between the scales of the opening bud before blossoming time and eating off the of the petals and even the stem of the flow- as the blossoms open. This causes the m to fall and the fruit, of course, fails to

hile the thrips are called the pear thrips, be- se when first discovered they were infesting rs trees, yet they occupy a large number of r fruit trees, one of the worst damaged being nes. However, for the past two or three s pear growers of Contra Costa coun- ave suffered such great losses, and this sea- have found their pear trees entirely barren fruit because of the pest. They appealed to the e Board of Trade to take up the matter and re from Washington additional help to in- igate the methods of control of this pest. A ting to discuss the matter was held in San cisco on June 9th, President Briggs of the rd presiding. The president in opening the ting called upon Mr. Palmer Anderson of tra Costa county to give an idea of the con- n with the pear growers of that county. Mr. erson said that in his district growers had, two or three years past, lost almost their en- crops of pears, and in despair were prepar- to take up their pear orchards that were tically exempt of the pear blight, but were less against the thrips. We are very anx- to get some assistance in regard to the ps. It is worse this year than ever before has been spreading for the last four or five s.

hen asked regarding the use of sprays nst the insect, Mr. Anderson said: "We used lime and sulphur, but it was a hope- task, as the thrips were inside the bud where could not possibly reach them. Spraying is peless task and absolutely of no value."

ther Trees.

r. Moulton was also present and was called , and spoke as follows: Mr. Anderson in ing about the injury done to pears has only n you a small idea of what the injury to r fruits is. While thrips has cleaned out a ber of pear orchards in Contra Costa coun- nd farther north, and in Santa Clara county, rhaps has done more injury on prunes and r fruits. It was first found in pear blooms was called pear thrips. In distribution it und almost altogether close around the bay. also found from near Auburn in the Sierra foothills, and as far south as Hollister. It is an insect that attacks deciduous fruits. It is a tree feeder and it does not feed on grasses."

As to the life habits of the insect, Mr. Moulton said: "We have it fairly well worked out. The adults appear late in February or March. They are in the ground all winter. They feed on the veins of the leaves and the eggs are deposited inside. They feed for about three weeks and then drop to the ground; they generally go to the surface just below the loosely cultivated ground. When they come out of the ground they are brown insects with wings. When they come to the surface they fly up into the trees. Irrigation has no effect upon them. Cultivation will kill a few of them, but generally they go down into a break in the ground again and form a tiny cell. When you drive your cultivator through the ground as a general thing you will work around the cell but not break it. They are found immediately below the trees."

Asked as to the effect of sulphur spread upon the ground, Mr. Moulton said that he thought it would have no effect whatever. Regarding the different varieties of fruit affected and the manner of working upon them, Mr. Moulton said:

"Before discussing the injury done to pears, I will mention the injury done on almonds, apricots and peaches, as leading up to the nature of the injury done on pears. I will take almonds first. They begin to bloom in early February and open up a large blossom surface and leaf surface before the thrips come to the trees in serious numbers, so while there are many thrips we find the trees giving a heavy crop of nuts without almost any injury. After the full blossoms open the thrips gets inside the cup, but does not touch the fruit and the nut goes on maturing without much injury. That is true of peaches also. Thrips migrate from tree to tree.

"This pest has been known for about four years. I believe it was Mr. Ehrhorn who first found it in the Santa Clara valley. He did some work on it and later I did some. Then there was nothing further done on it until our department took it up this year.

Makes the Blossoms Drop.

"Apricot trees blooming as they do the last of April, come in for a good share of the injury, because then the thrips are out in great numbers. The blossoms have opened, showing just the whites of the petals and the thrips, instead of going to the inside of the bloom, follows down the outside of the blossom and begins to feed on the little stem at the base. Feeding as it does, it weakens the stem and perhaps does not touch any other part of the blossom. If you touch one of the branches, 75 to 90 per cent of the blossoms will drop off. The thrips move from tree to tree very readily. They move by their wings and are carried by the wind. We find the thrips hovering over the trees on a quiet afternoon, but they won't leave the tree when there is a strong wind on. They are distributed according to the direction of the prevailing winds. When peach trees get to about the stage when they have just shed the blossoms we find the thrips on the nectar glands of the tree, but no injury at all to the fruit."

As to its work on prunes he added: "As soon as the cluster buds spread and the blossoms start out, they go right down the center, and if we have favorable weather with ordinary warm conditions the buds will start. They begin then to rasp on the little blossom stems and the result is that the whole cluster falls after just a day or two. If they don't kill the fruit in the bud, they attack it in the blossom, and if they don't kill the blossom the larvae start to feeding on the fruit and forms a scab. Last year it was very noticeable on most prunes whenever the thrips had been present. Many people thought there was a fungus on them, but it was not so. It is a little brown scab on the end of the fruit in a circular form. Many packers would not accept this fruit.

Cherries.

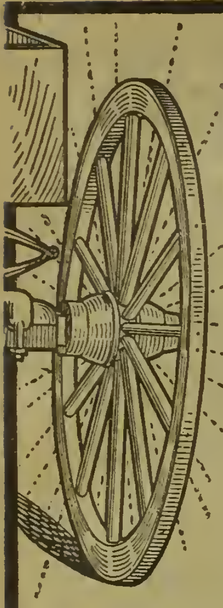
"Where the buds are just opening, we find the larvae going in and you have the ragged effect with all the buds dead or injured, and later we have the injury to the leaves. The Black Bigarreau cherry is singled out in every case and then the Tartarians. The Royal Anns are hardly touched, because the thrips get all the food they want on the earlier trees that have been blooming.

"In regard to pears. Even though some of the others are late of bloom they prefer the pears next to Imperial prunes. The opening of the cluster buds is very favorable to their feeding. As soon as the clusters start they find a large surface on the leaves and blossoms and go to feeding, the trees throwing out a gum which drops from the clusters. Pears may be very badly hurt, and yet as the Bartlett pear has a long blooming season the late blossoms may come through. The thrips may migrate to another orchard and leave those trees to blossom.

Remedy.

"We have tried almost everything we could think of on the larvae and the adults. We have tried irrigating to try to drown the larvae out, but it is not practicable or effective. Their bodies are rather oily, which makes it difficult to kill them with spray. We tried whale oil soap, but that will not kill the thrips at all. The soap washes have all proven the same thing. They don't penetrate into the breathing pores because the body is oily. Lime and sulphur act in the same way. They seem to stay on the back, but not kill them. We used kerosene emulsion and found it very penetrating, and we could use it without injury to the tree. The oil itself is very penetrating and kills whatever insects it touches, but has no disagreeable odor or lasting qualities, and perhaps 40 per cent of the thrips escape it. With distillate and crude oils we had practically no good results at all. The crude is too heavy; it blackens the foliage and blossoms and so there is considerable injury to the trees. Distillate emulsion seems to be a very good insecticide. With five per cent emulsion we used 5 gallons distillate to 100 gallons water and we killed the thrips in sight and most of those in the clusters. It stayed on the tree long enough so a little of the wash would run down to the blossoms and act as a repellant. There are two washes that have been successful, one was the black sheep dip and the other tobacco and potash. We used 1 gallon sheep dip to 70 of water. We then used 1 gallon to 10 of water or 95 cents worth of material for one tree, but killed 99 per cent of the thrips without an injury to the tree. We then reduced it to 1 to 20 and got the same results. We think that one to 50 or one to 55 would be very effective for the killing of the thrips that we can reach.

Continued on page 711.



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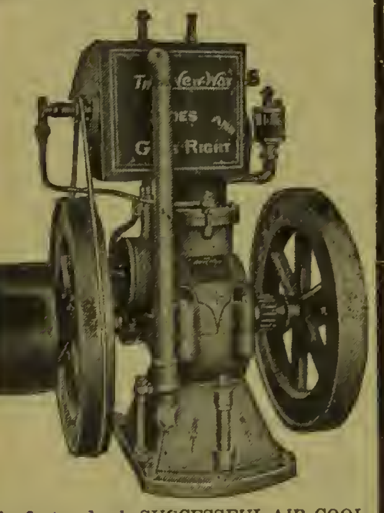

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With the Citrus Growers

HUMUS.

AT THE recent Farmers' Institutes held in San Bernardino and Los Angeles counties, Dr. R. H. Loughridge gave a lecture on humus and its effect on the soil. He stated that humus was a result of vegetable decomposition and showed pure humus in a small phial, that he had extracted from soil by means of dissolving it out with ammonia. The ammonia was afterward evaporated, leaving the black substance behind. This will burn like coal. There are two distinct classes of humus, that which acts on the soil elements and that which does not. Humus may be derived from any kind of vegetation and the two great classes of vegetation, leguminous and non-leguminous are what make the two kinds of humus. That derived from the former class makes active humus that gives life to the soil and adds nitrogen. It serves to promote aeration of the soil, makes light soils conserve the moisture by regulating the compactness and by the same means loosens heavy soils so that they will absorb more water and also retain it for a greater length of time. He stated that as a general thing, the humus in Eastern soils extended but a few inches deep, while California soils contained humus much deeper and, in many cases, was found several feet deep. Eastern soils, however, contain the most humus but the California humus is the richest in nitrogen.

Much stress was laid on the necessity of constantly adding humus to our soils in order to improve the mechanical and physical condition and also promote their efficiency in utilizing the latent fertilizing elements.

Charts were shown which demonstrated the greater rapidity with which plants grew in light soils than in heavy ones. In some cases the increase was double on the light soils, showing especially the necessity of adding humus to our heavy soils.

FACTS ABOUT SOILS.

Did it ever occur to you that the soil breathes just as plants and animals do? It is a fact that it does. Every time it rains or the land is irrigated, it exhales and when it loses its moisture it inhales. Aside from this it has less profound breathing exercises continually. The act of water penetrating the soil expels the air and as the water penetrates and leaves spaces between the soil particles, the air rushes in and takes its place. This fresh air aids the plants by making available a little more plant food and driving out the obnoxious gases that collect during the act of plant growth.

When water is applied to clay soils much of it will stand on the surface till evaporated instead of sinking in and being held in reserve for future use. Manure will improve this condition as will sand. Sandy soils, on the other hand, are improved by having clay added to them. It has been demonstrated that in this respect, humus is ten times more efficient than clay. This physical improvement in these two types of soil may make the difference between sterility and fertility.

Sand will absorb and retain about 15 per cent of its bulk of moisture while peat will absorb 70 to 80 per cent. This shows that the more humus a soil contains, the greater will be its absorbing and retentive powers.

The capillarity of soils deals with the power of water to travel around or through it in any or all directions, but it is generally referred to as the power to ascend. There are no tubes formed in the soil through which the moisture ascends as is generally supposed. It is simply the power of gravity and the power known as tension.

When two corks of different sizes are floating in a tub, they will come together with a bump if they are allowed to come within a certain distance of each other, or they will bump up against the side of the tub. This is because they are attracted by the larger body. It is the same force that makes chips collect and cling together in a pool. In the case of water or other liquids, the force known as tension compels the fluids to spread over the surface. This is why the water extends up the sides of a glass to a slight degree and on the insides of a glass tube to a greater degree. It is well illustrated in the case of a soap bubble when the stem of the pipe is removed from the mouth befor the bubble parts. In this case the tension of the liquid squeezes the air out through the pipe stem till the bubble forms a diaphram across the bulb of the pipe.

Now these two forces, gravity and tension, force the water from one particle of soil to the other, in all directions. If the soil particles are held far apart. the moisture must travel slowly. Cultivation loosens the soil and brings this condition about. When the particles settle together which they are always doing, capillary action is faster and we must cultivate soon or we will lose more moisture.—J. W. Mills.

SICILY LEMONS IN NEW YORK.

Regarding the Sicily lemons in New York and other Eastern markets, we note in the Packer the following:

Took a Slump.

The Sicily lemon market took a slump this week. At the sale of the cargo ex Ss. Liguria, 12,000 boxes, Tuesday, the market was woefully dull and prices were lower all around. It would appear without question that the Sicily lemon market at the present time is weak, but this weakness is, undoubtedly, exaggerated by the poor quality of fruit that has been offered recently. Cargo after cargo for the past few weeks has shown deplorable condition. There are some lots, of course, of good fruit, but there are many poor lots in evidence.

There is much complaint being made on the street of the way the samples of Sicily lemons are being displayed. Brokers claim that it is almost impossible to be guided by samples. They are doctored and when the brokers inspect a line of fruit the stock is made to show up as sound and well keeping when in reality the actual condition of the fruit offered is in many instances too poor to stand shipment for any distance. Brokers this week were flooded with complaints from customers for whom they had bought high priced and supposedly well keeping fruit for which they paid good prices. This obnoxious system should be stopped. Brokers are naturally inclined to be timid about taking hold of fruit unless "they have been shown."

Too Poor To Buy.

The cargo of the Liguria sold Tuesday was too poor to warrant buying

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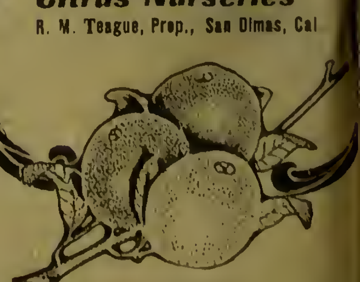

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ipment any distance, and brok-
10 held orders, even for nearby
were timid about filling them.
, therefore, up to local jobbers
the fruit, and as they were al-
pretty well filled up on this soft
from recent sales they were not
xious to acquire new holdings.
preference was shown for the
e fruit of the best grades. The
in prices was as follows: First
2.40 to $3.10, seconds $1.50 to
first 360s $2.20 to $3.10, seconds
o $2.35. Small sizes generally
from $1.60 to $2.50 and some
wasty stuff sold down as low as

dirty, underhanded methods re-
to by some of the Sicily lemon
ers in exhibiting samples and
neral unfair way they have been
g the trade here is doing much
ls demoralizing the Sicily lemon
ss.

sted.

kers are simply disgusted with
ay the affair has been run and
lay E. Andrews, jr., chairman of
ck committee of New York Fruit
nge, officially tendered his resig-
to that body. Chairman An-
has been untiring in his efforts
making the Sicily lemon
ions here clean and has repeat-
rotested against the high handed
of certain importers for so long
e at last became disgusted and
p the task as futile. The New
Fruit Exchange found it neces-
take drastic action in the mat-
is week. Preceding the sale
of the cargo ex Ss. Cerea, Presi-
Victor L. Zorn of the New York
Exchange, made the following
ncement at both the Brown &
nb and the Connolly Auction
ales:

ing to the refusal of the em-
of importers to select and dis-
n accordance with the rules mu-
agreed upon, the samples of the
of lemons ex Ss. Cerea, the in-
rs of the New York Fruit Ex-
declined to mark the samples
were selected and refrained
exercising any supervision over
ployes of the importers in their
of fruit. In view of these
you will please announce before
g for sale today your portion of
id cargo ex Ss. Cerea that the
York Fruit Exchange does not
ll not assume any responsibility
e samples displayed."

Vednesday the cargo ex Ss. Cap-
19,800 boxes as sold. This
showed a number of large in-
of good fruit and while the mar-
owed no material advances, still
eling was somewhat firmer.

Thursday's sale of the cargo ex
orida, 19,000 boxes, the market
ed about steady except for lots
g a heavy percentage of decay
ese sold lower. On Friday the
of the belated Ss. Cerea, 27,000
was sold. This cargo had been
for about six weeks and the
while generally inferior, was far
than expected. The range at
ose on first 300s was $2.25 to
first 360s $2.25 to $2.75, second
nd second 360s $1.90 to $2.20.

FLORIDA PINEAPPLES.

ng to the extremely dry weath-
ing the past winter, the pineap-
Dade county will be unusually
and consequently the number of
less than last year.

market is lower and the de-
less active than a week ago, ow-
the cool weather up north,
prevents green fruit shipped from here from ripening, and the heavy receipts of Cuban pines.

In consequence of these conditions, extreme caution should be used in picking and packing fruit, as only the best bring good prices.

Some growers to the south have realized very good prices and one grower as much as $2.50 f. o. b. for pines in good condition and well packed.

From a report received from Mr. E. P. Porcher, general agent of the I. R. and L. W. Pineapple Growers' Association, dated May 12, his last sales netted from $1.30 to $2.02½ per crate.

Twenty-one cars have been shipped by him from Jacksonville to northern cities, and several of these have been exported, but the returns from those exported are not known.

Whenever the pineapples in this district are small the slips are also small, unless the plants are heavily fertilized after the fruit is shipped, and the slips are allowed to stand on the plants until August.—Palm Beach News.

Our pineapple crop is fair this year and the size of the fruit is desirable. I have shipped 350 crates, some for England and some for domestic markets; now we can ship one or two cars each week from Yamato. Our crop of pineapple are about half on old plants and 20 per cent on young but the fall crop will be very heavy.

Growers have been picking tomatoes for three weeks from the plants which we set out after the frost last February, but a heavy hail visited here, and destroyed more than 90 per cent of the crop in Yamato; only seven acres of my own field was safe; however, we are picking from one to two cars of tomatoes every week.—West Palm Beach Tropical Sun.

CHERIMOYA.

The Cultivator office was recently favored with a magnificent specimen of the cherimoya or Anono, or, as some call it, the custard apple. This fruit was grown by Mr. James Fullerton on his little ranch, the Twin Palms, at Orange. The tree on which it was grown was received by Mr. Fullerton by mail in March 1904, and is now between four and five years from the seed. It has borne four apples weighing from one and one-quarter to one and a half pounds and now has a number of smaller fruits coming. The fruit is very luscious though to some it is considered sweet and insipid, but we believe such fruit if cultivated in any quantity in this State will add materially to our wealth. It is a favorite with the wealthy and sometimes has been sold as high as $2.50 for a single fruit. The seedlings of various trees vary to a certain extent and it is necessary to bud or graft to be sure of the finest strains. This one which Mr. Fullerton has surely is one of the best.

SMALL CROP IN FLORIDA.

The orange crop will be short throughout this part of the State and indications are, judging from reports from various sections, that the crop will be short all over the State, even shorter than last year's crop. This is on account of the extremely dry weather which caused the young oranges to drop after growing a few weeks. The bloom on the trees was never more prolific than it was this spring, but everything living must have water and where there is no irrigation there will be few oranges. Grapefruit seems to make a better showing and the indications at present point to a fairly good crop. Nearly every day heavy clouds appear and everyone rejoices expecting to at last get the much needed rain, but the clouds pass over with but a few drops of the welcomed article left behind. However, Micanopy is hopeful and in the knowledge that it will not always be dry; that is, dry for the want of water. Her growers will continue to plant another season, let us hope, with better success.—The Packer.

The sweetest fruit may have come from the bitterest root—but who cares how bitter the root, if sweet the fruit.

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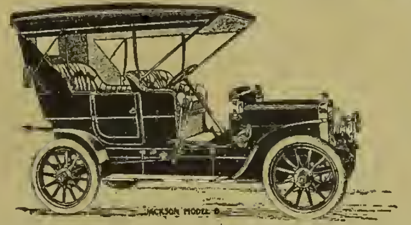

No Hill Too Steep FOR No Sand Too Deep
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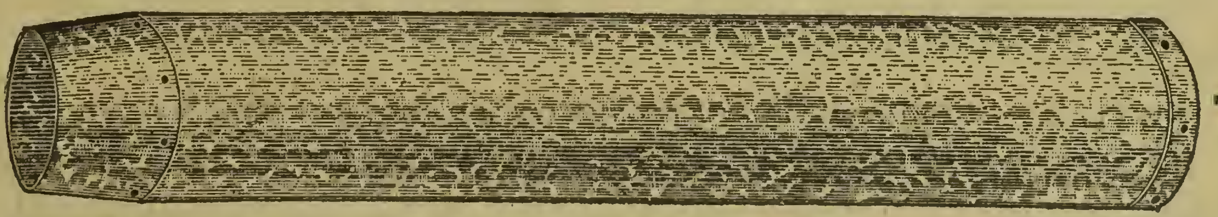
RUNABOUT, 18 H. P. - $ 900
TOURING CARS, 24 H. P., $1350 and $1650
TOURING CAR, 35 H. P., 4 cyl., $2150
GENTLEMAN'S ROADSTER, - $2150
Send for Catalogue and List of Used Cars
Agents Wanted Where Not Represented
A. W. GUMP AUTO CO.
1118 S. Main St., Los Angeles

Citrus Trees
For Season 1908
Valencia, Eureka Lemons, Thompson and Washington Navels, Grape Fruit
C. L. McFarland & Co.
Riverside, Cal.

TENTS
Fumigating and Lemon Curing Tents our Specialties
Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants
Wagon Covers, Hay Covers, and Canvas Covers of Every Description.
Mellus Bros. & Co
Phones—Home, F 4871; S. S., Main 8500
250 East Fifth St., Los Angeles, Cal.



AMERICAN SURFACE IRRIGATION PIPE
SAVES WATER, GRADING AND TIME
The **only** way to **Irrigate Alfalfa. Cheaper** than **Flumes.** This is only **one** of our **specialties.** We **make Riveted Water Pipe** in lengths of **ten feet** from **single sheets.** Let us **prove** to you that we **make Pipe** and **Tanks right.** WRITE FOR CATALOGUE.
AMERICAN STEEL PIPE & TANK COMPANY
FORMERLY TALLERDAY MANUFACTURING COMPANY
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The Oldest Savings Bank in California
FOUNDED IN 1857
The Savings and Loan Society
101 Montgomery St., Cor. Sutter St., San Francisco
CAPITAL FULLY PAID $1,000,000.00
Exclusively a Savings Bank whose policy is for ***Conservatism*** and ***Safety,*** the result of ***50 years experience.***
Deposits may be made and withdrawn by mail.

San Francisco Savings Union
Founded June 18, 1862 Northwest Cor. California and Montgomery Sts., San Francisco
Conducts a Savings Bank Business Exclusively
Capital Paid Up, $1,000,000.00. Surplus, $1,168,281.00.
Total Assets, $29,946,358.00.
E. B. POND, President.
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Every facility afforded for opening accounts and making deposits and withdrawals by mail. Correspondence invited.

Placer Nurseries

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

Write us.

Silva & Bergtholdt Company
Newcastle, California

TREE TANGLEFOOT
A Sticky Preparation Applied Directly to the Bark of the Trees

Will not injure trees. A band 5 inches wide and 1-16-inch thick cannot be crossed by any climbing insect pest. Remains sticky five to ten times as long as any other known substance. You can test it at slight expense, as no apparatus is required. Used by the carload in New England against the Gypsy and Brown-Tail Moths. In California it preserves prune orchards from the Canker Worm Wherever the Gypsy or Brown-tail Moths, Tussock Moths fall or Spring Canker Worm or Web Worm appear TREE TANGLEFOOT is of great value, and should be used when the caterpillars begin to crawl while they are very young.

Price 25c per lb. Liberal discount on quantities. The only safe and effective banding preparation. Send for testimonials.

THE O. & W. THUM COMPANY
Manufacturers of Tanglefoot Fly Paper Grand Rapids, Michigan

A Railway on the Ranch
Saves Much of the Hard Labor

The equipping of the ranch with a ***Portable Railway*** is a very ***Profitable Investment*** and ***not*** very expensive.

Our booklet S. F. 60 gives several suggestions for applying it to the Dairy and Ranch.

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Pioneer RUBBER SANDED **ROOFING**
Write for Samples and Booklet
Let us Put You in Touch With our Local Agent in Your Community
Rubber Sanded Roofing is successfully used on flat as well as pitched roofs —residences, hotels, business blocks, out-houses; anywhere that a rain-proof, sun-proof roof is required.
Comes in handy rolls; easy to lay. No special tools needed. Everything in the way of nails and liquid cement for laps furnished in center of each roll, without extra charge.
Pioneer Roll Paper Co. Department 11 Los Angeles, California
Makers of Rubber Sanded and Rubber Flexine Roofing and Refiners of Asphaltum

When writing advertisers, mention Cultivator.

Deciduous Fruit Cultur

SULPHURING GRAPE VINES.

BIOLETTI SAYS there is, perhaps, no disease of the fruit of the grape that causes more trouble than mildew. If it is not taken in time it renders the fruit practically worthless in bad cases, and in any case, decreases the yield and detracts from the quality and appearance of the grapes. It is not confined to neglected vineyards by any means, but is worse in rank, dense foliage than it is in thinly growing vines, because the fungus on which the disease thrives best is in places where the moisture is retained longest.

The greatest damage is done about blooming time, still there are exceptions to this. During the months of July and August it is usually too dry for the fungus to thrive; however, on land that has been irrigated or where there is a dense and luxurious growth of vines, much damage is done as late as midsummer.

When grapes have attained their full growth, it is not likely that mildew will affect them, though it sometimes does. With table grapes it often discolors them so as to reduce their market value, while with wine grapes the same amount of mildew would not amount to appreciable injury. It is not safe, however, to allow mildew to infest a vineyard at even such a late date. While the present crop is safe, much injury may be done to the vines. An attack of mildew in September or October will seriously impair the crop for the following year. At this season it attacks the interior of the vine; that is, the base of the canes and the dense foliage at that point where it is most shaded. This causes imperfect ripening of the wood and improper development of the buds. This results in poor growth and a small crop the following year. Canes which are black or stained by a late attack of mildew are not healthy and in severe cases may not start out the next year. Buds lower down will grow and often will set a light crop or none at all. It should be a rule, therefore, to keep the mildew out of the vineyard at all seasons of the year when growth is active.

Late sulphuring requires more material and is more laborious than early sulphuring, owing to the more abundant vines. The amount of sulphur used in most California vineyards is, however, much larger than is necessary.

This is because it is not properly applied. These facts have been worked out by Mr. Bioletti, and tests made by him are of great value to the grape growers of California. His tests were made in a vineyard of Tokays planted 9x9 feet. Vines with a spread of two to three feet required about 5 pounds of sulphur per acre. With the ordinary tin shaker, about 7 pounds were used per acre, while when the sulphur was simply thrown in by hand, 12 pounds were necessary to do the work properly. With large vines, the contrast was still more striking. With the best machine tests, one acre of vines can be sulphured in 56 minutes with about 8 pounds of sulphur. With the shaker it took a little longer and about 30 pounds were needed, while with hand sowing it took 69 minutes and required 43 pounds of sulphur.

These figures show that the three sulphurings usually given in May, June and July, applied with the sulphuring machine, required pounds per acre, the hand shaker pounds and when thrown on with hand, 80 pounds per acre were u If we reckon the price of sulphu $2.50 per 100 pounds, the cost of amount wasted by the ordinary de of a perforated tin shaker would $12.75 per ten acres, and if the phur were thrown on by hand, the would be $20.00 on every ten ac The latter figure is nearly twice cost of a good sulphuring machine.

The machine gives the additio benefit of ease of application, it be equally easy to apply the sulphur all parts of the vine, while at the sa time the work is more thoroug done than with any other method.

Mr. Bioletti says that his experien is that sulphur properly applied right time will thoroughly contro mildew, and in every case he inve gated where suphur was said to effective, it was found that the had been improperly done.

SOME PATENTS.

In the Scientific American we the following patents issued for tions of interest to farmers: F pickers' platform, C. A. McDe Sultana, Cal. The platform is in the form of an annular segmen tending about halfway around tree, suitably mounted on legs of ficient height to bring the picke into easy reach of the fruit on branches.

Corn harvester, R. B. Brewe ford, Kan. This farm wagon at ment is particularly adapted for vesting Kaffir corn, but may be for ordinary corn.

Insect destroyer, G. W. Dar Edna, Tex. An object of the inv is to provide a simple, strong an ficient destroyer, by means of w the insects and more particularly weevils and the like can be remo from vegetation and destroyed, which does not interfere with the dinary cultivation of the vegeta and does not injure the same in way.

Corn gathering and husking chine, N. M. Anderson, Galva, The invention is an improvemen machines for use in gathering husking corn in the field and charging the same into a wago other convenient means for recei it, all of the operations being formed automatically as the mac is drawn over the field.

NITRATE OF SODA FOR DE UOUS FRUIT.

A German bulletin gives inter results with nitrate of soda use cherries and apples. Illustr show graphically the differen yield when this fertilizer was and when it was omitted. A tions of as much as 50 poun acre did not give injurious

Injury to fruit trees whe fertilized with nitrate of s shown in the young shoots th brown and wrinkling up as th burned.

As a result of ten years' experie in the use of fertilizers in connect with potash and phosphoric acid, writer holds that not only is the trate beneficial and profitable, but those who would secure the great returns, it is indispensable.

Here is food for thought for the ciduous fruit growers of Califor

s so generally supposed that decid-
s fruits do not need fertilization,
t the subject is dismissed without
her thought. When we stop to
ık that the best paying peach, pear,
rry or any other kind of a decid-
s orchard in California, will al-
's be found on the best soil, it is
ıfe guarantee that fertilization will
) the great majority of deciduous
ıards, if not the best. There was
me when it was not thought nec-
ıry to give more than a very
ht application of fertilizers to our
us groves, but there cannot be
ıd an orange grower in Southern
fornia today who will not say that
'y fertilization pays.

E THOROUGH WITH YOUR SPRAYING.

What is worth doing is worth do-
well" is an old adage and no-
re is it more true than in the use
ırsenical sprays for the destruc-
of the codling moth. When you
e sprayed a few trees for the pur-
of filling the blossoms with the
on spray, stop and inspect what
have done. If you find every lit-
olossom cup filled with the poison
y, you may be satisfied with your
. If you find that many of the
soms are dry, not filled with the
on liquid, be sure that you are not
g thorough work and that many
our apples will be wormy in the
This is the only sure test of
work that I know.
your trees are large, you prob-
will not be able to make a thor-
ıly effectual spraying with less
about eight gallons to a tree,
it may take more than this.
le it is best to be thorough, it is
advisable to waste time or mate-
or to fill your soil with arsenic
n extent greater than is necess-
to accomplish the desired end,
destruction of the worms.

THE AVOCADO.

ere is almost as much difference
een a fine budded avocado and a
ling as there is between a well
n Baldwin apple and a seedling.
ıre of the opinion that the avoca-
hat color when well ripened to a
red or purple will be much more
d by the trade than one that
s and holds its green or pale
color. This class of fruit is
more attractive. Our reason
hinking this is the general mar-
onditions. In the apple market
pple which appeals to the eye is
ally the best seller and more
ıt after.
e the Ben Davis, with its rich
cheeks, it always finds a quick
et at good prices, yet it is to our
one of the poorest apples in the
et, it having no distinct flavor,
s magnificent coloring sells it in
ıarkets of the world. So we be-
it will be with the avocado—the
ith bright, high colorings will be
ne that will be sought after by
consumers. There is no fruit
in any portion of the United
s that has a brighter future than
In the New York market, at the
stores, they sell for from 50 to
nts each, and their popularity is
asing each year. The demand
the known or budded varieties.
meseeker.

ılid happiness we prize,
hin our breast this jewel lies,
hey are fools who roam;
world has nothing to bestow,
our own selves our bliss must
flow,
that dear hut,—our home."

California Horticulturally

MUCH FRUIT WILL BE DRIED.

IN VIEW of the statement that no action will be taken deterimental to the dried fruit interests on account of the sulphur ruling until the matter has been considered by the referee board, and the further assurance that that Board will not meet for a year from next August, apricot and peach growers are more at ease, and very much of the crop of both these fruits will go to the drying ground, as there will be much undersized for canning.

FUMIGATION IN THE NORTH.

The necessity for fumigation for scale pests is becoming recognized in the northern portion of the State, which has stood out against this method of fighting insect enemies for some time, chiefly on account of its cost.

In Glenn county, the owners of orange trees had them fumigated for the yellow scale, which is one of the worst orange pests of that section, and now orange and olive growers at Fair Oaks, in Sacramento county, are agitating the question of fumigating for black scale, which has increased with such alarming rapidity in that section as to threaten the lives of the trees themselves, and to reduce the crop of marketable fruit to the lowest point.

FEWER PESTS THIS SEASON.

From reports received from different fruit sections, there appears to be less trouble from insect and fungous pests this season than usual, which is probably due to the meteorlogical peculiarities of the season. Peach fungus is giving little trouble; shot-hole has been less destructive than usual, while little complaint is heard of army insects, which usually appear in some sections nearly every spring. No swarms of grasshoppers, outside of the high mountain sections, have been reported; cutworms or army worms have been reported from few points, and the swarms of these are not large. In San Mateo and other coast counties there is a visitation of the oak moth, which is defoliating the live oaks, but this is not injurious to fruits. The dry, cool weather of the early spring months was not favorable to fungous growth; the spores were dried up and few germinated.

SHORT COURSE AT THE UNIVERSITY FARM SCHOOL.

The University Farm School at Davis is now ready for active operations, and a Farmers' Short Course will commence in October and continue until the end of November. It is gratifying to note that California has got what she has long needed, a genuine agricultural school, separate from the University, yet connected therewith. The summer course is a very excellent one and as it is open to all people over 17 years of age, there should be full classes.

THE TUSSOCK MOTH.

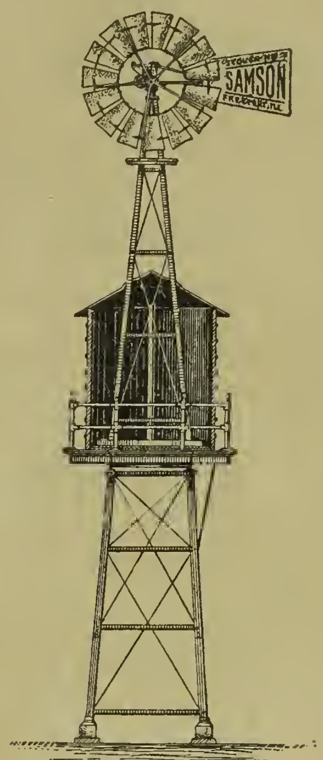
The Tussock moth has again appeared in numbers in the apple orchards around Watsonville, and County Entomologist Volk is doing excellent work in fighting it. This pest is a very difficult one to handle on account of its remarkable resistance to poisonous sprays, but Mr. Volk believes that he has now succeeded in applying a wash which will catch it. It is a fortunate thing that there is a number of parasites which prey upon this moth and these have kept it in check in the past. We remember, a number of years ago, when the Tussock moth was regarded as one of the worst pests in the State, being very generally distributed and as bad as it now is at Watsonville, but its natural enemies increased to such an extent that they overcame it, and for many years it has not been considered a serious pest. Lately, however, this outbreak has occurred in the Watsonville section and the apple growers there have become very justly alarmed.

NORTHERN FRUIT CROP GOOD.

As the season advances there are no unfavorable reports of fruit conditions in the deciduous sections. Cherries, apricots, early peaches and plums are now being shipped, and all of these are yielding heavily. Later fruit is showing up equally well and altogether 1908 promises to be a record year so far as fruit in Caifornia is concerned. Apricots are somewhat undersized, and the percentage of first class fruit will be small. This is due, to some extent, to the neglect of many growers in thinning.

Sulphuring on a big crop of grapes about Biggs is proceeding.

SAMSON WIND MILLS
Have double gears, removable bearings and center lift, which double the life of the mill. They will last longer, pump more water and give better satisfaction than any other WIND MILL.



This is an up-to-date Sub-structure, Tank and Wind Mill outfit complete; substantial, economical and attractive. We build all kinds. Write us or our general agents for full information and prices, description &c., before purchasing.

The STOVER MFG. CO.
FREEPORT - ILLINOIS
30 California Avenue
CRANE CO., LOS ANGELES and SAN FRANCISCO
General Agents for California

Irrigating Hose

12oz. Canvas Coated or Plain. Good for several seasons.
1¼ Inch
2½ "
4 "
6 "
9 "
3 Inch
Galvanized or Brass Couplings.
Prices on Application
Tents, Stack Covers, Picking Bags
The Wm. H. Hoegee Co.
INC.
138-140-142 So. Main St., Los Angeles
Both Phone Exchanges 87

Dividend Notice
The German Savings and Loan Society
526 California Street, San Francisco
For the half year ending June 30, 1908, a dividend has been declared at the rate of four (4) per cent per annum on all deposits, free of taxes, payable on and after Wednesday, July 1, 1908. Dividends not called for are added to and bear the same rate of interest as the principal from July 1, 1908.
GEORGE TOURNY, Secretary

Balfour, Guthrie & Co.
IMPORTERS OF
THOMAS PHOSPHATE POWDER
AND
NITRATE OF SODA
SAN FRANCISCO FRESNO LOS ANGELES
WRITE FOR PAMPHLET AND PRICES
When writing advertisers, mention Cultivator

An Income for Life

May be had by planting a grove of **Eucalyptus** trees. We are headquarters for all varieties of **Eucalyptus Seed.** Also carry a good assortment of trees in flats. Write for our 1908 seed catalogue. It describes the kinds and tells what the wood is best suited for. Don't delay. Do it now.

GERMAIN SEED COMPANY
326-328-330 S. Main St. **Los Angeles, Cal.**

Eucalyptus Seed

Our Eucalyptus expert will return from Australia about July 1st with ten varieties of Eucalyptus seed, fresh, and true to name. Each variety is suited to a particular purpose and the particular conditions of soil and climate. Write for our circular describing each variety.

Johnson & Musser Seed Co.
113 North Main St. **Los Angeles, Cal.**

Poultry Supplies

Best of All Kinds at Lowest Prices

West Coast Seed Co.

707 So. Spring St., Los Angeles, Cal.

Crimson Winter Rhubarb and **Berry Plants Our Specialty**

1000 choice Navel Oranges, together with a few other Citrus Trees. April and May are best months to plant Rhubarb for heavy Crops next winter. It has never been equalled as a money maker. $1.50 per dozen, $6 per 100, $40 per 1000. Pedigreed plants.

J. B Wagner
The Berry and Rhubarb Specialist **Pasadena, California**

1000 Washingtonia Robusta Palms

field grown, 2 to
3 ft, at a bargain

Armstrong Nurseries
ONTARIO, CAL.

EUCALYPTI

20 varieties in cans and flats. Also a fine stock of *Acacias*, 12 varieties.

Shrubs Roses
Palms Fruit Trees
Vines Ferns

A full assortment of everything for the garden or ranch for the coming season. We can fill orders in large or small quantities, and guarantee satisfaction. Our free price list will be ready soon. Send your name in for one **Do it now.**

Sycamore Grove Nurseries
SAINT & WARNER
4584 Pasadena Ave, **Los Angeles, Cal.**

Dust Spray
Hydrated Lime
The Holmes Lime Co.
Mutual Savings Bank Building
San Francisco

Eucalyptus Forestry

Are you Interested in it? If so, come and see the different varieties grow. I will raise any variety in any quantity for early or late planting for season of 1909. Get your order in now to make sure of good trees grown especially for you at low prices. Write me your soil, moisture and temperature conditions and I will tell you the best tree for you.

HUGH T. THOMSON, Supt.
CERRO VILLA RANCHO
Orange, Cal.

Burbank Crimson Winter Rhubarb

Plants and Seed for sale in any quantity. Warranted the genuine article. Orders filled promptly

A. L. Fratt, Ventura, Cal.

When writing advertisers, mention Cultivator.

Pacific Seed Co.
C. Bagnall, Prop.
GROWERS AND IMPORTERS OF
Grass, Vegetable and Flower Seeds
All Kinds of Bulbs and Onion Sets
609 J St., Sacramento, Cal.
Send for Catalogue. Please mention Cultivator.

When writing advertisers, mention Cultivator.

Small Fruits and Vegetable

A SWEET HERB GARDEN.

Take the richest, sunniest spot for your experiment. Add liberal supply of thoroughly-rotted manure, have the plat spaded or plowed, then worked and leveled, so that the soil looks mellow and smooth. When you take charge of your herb garden, mark the plat into long and narrow beds, with room for paths and for convenience in weeding. Some of the sweet herbs are perennials, and when once well established will live from year to year and flourish anew each summer.

Let us start with the homely sage, the friend of the common cook, used wherever roast pork or stuffed fowls are well served. Sow the seed in rows about one and a half feet apart. When they come up and are "well set," as the gardener says, you must thin them out until the plants stand six or eight inches apart. Let them be until they begin to crowd, which will probably not be until after the crop is off in the second year. Then thin until they stand about one foot apart and leave them indefinitely. By leaving the first plants near each other you may secure a crop much earlier than by the old way of transplanting. The proper time to harvest the sage is when it is just beginning to bloom. Cut the tops off evenly just as far down as the bright green leaves; those nearer the base of the stalk are usually thick, brown and dry. Tie the cut stalks into little bundles and let them dry in the sunshine. The quaint hues of leaf and blossom blend into a silver-gray ,and the fragrance of the drying leaves is most wholesome and appetizing. There is always a market for well dried sage.

Caraway may be planted rather thickly in the drills. But when the young plants are three or four inches high, thin to about ten inches; let them stand until the second season and thin again to twenty inches, or even two feet apart. This herb will not yield much the first season, in some places not at all, but the second year brings a good crop, and after that a never-failing harvest may be expected. The seeds must be picked as soon as they begin to dry, for they have little flavor if left to ripen on the stem. Cut the flower heads and spread them on papers in a clean, cool, shady place to dry slowly. When the seeds are thoroughly ripe and dry, rub them from the stems, winnow them clean, place in air-tight jars to preserve the strength. Ordinary glass preserving jars are convenient for the purpose. Caraway seeds are used in cakes and bread, and the Germans are fond of a caraway-flavored drink called kummel. Druggists and confectioners are always looking for pure, dried caraway seeds.

Thyme may be sown in drills only one foot apart, as it is a low, compact grower. Sow quite thickly and thin to six inches, and then one foot apart when the plants begin to crowd. When the lower blooms on the blossom stalk are open, cut the tops down to where the leaves are no longer fresh, make into small bundles and hang up to dry. Thyme is used by old world cooks for seasoning fish, soups and gravies.

Lavender is a beautiful plant, but very difficult to raise. Plant it in drills one and a half feet apart, th
out the young sprouts to ten inch
and more as they begin to crowd ea
other. The flowers are the only p
of the lavender that we care to sa
Cut them when fully opened, spre
out on papers in a dry, airy place, a
when thoroughly cured put away
air-tight jars. This herb is used
preparation of prefumes and all so
of toilet waters, and the dried flowe
impart a clean and tonic odor wh
scattered freely through the lin
shelves. The lavender gardens
England have an historic reputatio
There are stately terraces that le
to corners given over for years to t
sweet-scented herb—cosy noo
where the reading bench nestles un
der the spreading trees, and the
ple lavender flowers, on su
afternons, fill the air with frag

Other sweet herbs are ann
plants, and must be grown from
every year. Sweet basil, majo
and summer savory are the most u
ful of these, and those that are
greatest demand. Plant all these
drills one foot apart. They n
light, rich soil, and when just co
ing into bloom should be cut, t
into small bunches and dried. The
three herbs are much prized for
in cooking meats, fish, soups a
gravies. Summer savory is especi
fine in dressing fowls, imparting
piquant flavor found in no o
plant. Coriander may be raised fr
seed as directed for caraway, an
harvested and cured in the same
but must be freshly planted ev
year.

Any of these dry herbs may be
from house to house, or in bulk t
single purchaser. They are usu
arranged in small bunches and s
for five cents a bunch or th
bunchs for ten cents. Sometim
they are scarce and the price is do
led. The caraway and coriander
sold by weight, and the price co
be ascertained at the chief drug st
or grocery in the grower's vicin
The work of weeding, watering a
picking, drying, sorting and mark
ing is full of interest, and not
heavy for the ordinary woman
demands attention, early rising
much exercise out of doors, but
is just what we need to make
strong and healthy. After the
year you can have your regular
tomers and can count on an inco
small, perhaps, but sure and st

VEGETABLES AS MEDICINE

Watercress is an excellent
purifer.

Tomatoes are good for a torpid
but should be avoided by gouty
ple.

Celery is a nerve tonic; onion
are a tonic for the nerves.

Beetroot is fattening and good
people who want to put on fles

Parsnips possess the same
as sarsaparilla.

Cranberries correct the liver.

Asparagus stimulates the kidn

Celery contains sulphur and he
to ward off rheumatism.

Honey is a good substitute for c
liver oil.

The juice of a lemon is excell
for sore throat, but should not
swallowed, but used as a gargle.

Carrots are excellent for gout.

Imperial valley shipped out 27
of cantaloupes in one day.

UCALYPTUS
SEED

alyptus rostrata, the Red Gum
orynocalyx, the Sugar Gum
ereticornis, the Forest Red Gum
lobulus, the Blue Gum
itriodora, Lemon-Scented Gum
ornuta, the Yate Tree
olyanthema, the Red Box
euoxylon, Victorian Iron Bark
Many Other Valuable Sorts

all be pleased to correspond with prosive buyers and give particulars as to es on the seeds I am offering. Trial xets of any variety 15c each, 2 for 25c, welve for $1.25. Also young trees of y varieties for sale. Send for circular cultural directions.

THEODORE PAYNE
URSERYMAN AND SEEDSMAN
Home Phone A2480
S. MAIN ST., LOS ANGELES

We Offer For Sale
e Million Crimson
ter Rhubarb Plants

e Very Finest Stock Ever Raised, at Lowest Prices

he Coming Industry of the State
et Busy and Look Into This Now

e the pioneers in putting this industry aying, commercial basis. We have now Hundred Acres in cultivation and shall ut out One Hundred more. But this is drop in the bucket. We are opening extensive market for Winter Rhubarb East. This market will at present es take at least One Thousand Acres. to $1,000 per acre can easily be realized this culture. Crop matures 9 months planting. It does not require replanting. wish to cooperate with enterprising ers who are looking for a Splendid Inent. Send for descriptive circulars cong our Plan and Proposition.

e Adiramled Association
Pomona, Cal.

THE "BOSS"
ee Protecter
Made of Yucca Palm

Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grassboppers or dry winds. Can be easily removed; will last for years.
Send for samples.

Prices

12 inch long,	$ 9.00	per	1000
14 inch long,	10.00	per	1000
16 inch long,	11.50	per	1000
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The Ornamental Garden

A BEAUTIFUL VIEW.

A beautiful view from door or window is of more value than a costly picture. The latter varies slightly under different lights, it is true, but is ever essentially the same. A landscape, on the contrary, though its most salient features are unchanged, is never quite the same for two sucessive days, one might almost say, hours, for its expression under the morning sunbeams differs from the one it presents in the afternoon and at sunset, and still more widely under the white radiance and blurred definitions of the moon. And then there are all the wondrous and entrancing transformations wrought by the change of seasons.

The delicate hues of unfolding leaf and flower in spring, the strong contrasts of sun and shadow in summer, the gorgeous color effects of autumn. Who can make a pecuniary estimate of the interest, the mental and moral uplift of such a panorama?

Beautiful views are almost exclusively among the privileges and advantages of the country home. Very few situations in the city can, in the nature of things, command an extended and entirely pleasing prospect. Dingy walls, boxlike outlines, chimneys and smokestacks, all the sordid accompaniments of industrialism and human gregariousness meet and offend the aesthetic sense on every side. For the urban residence, therefore, the picture must be the substitute for the view.

In selecting the site for even the most unpretentious farmhouse, convenience should not alone be regarded, although to practical people of great importance, but the demands of taste to say nothing of the actual enhancement of values to the property in an advantageous situation of the buildings merit, at least, equal consideration. Then, when the house has been built with reference to the outlook, care must be taken in the planting of trees and shrubbery, making due allowance for growth, not to obstruct or restrict the range of vision in those directions in which the views are most attractive.

This can best be done by stationing an observer at certain windows and doors and calculating what will be the height and spread of a tree in a few years. Of course, where shade is desired as speedily as possible, rapidly developing trees, such as eucalyptus, peppers, and others of the same character may be interspersed with those of more enduring nature, with a view to cutting out the former after a few years.

It is not in accordance with the rules of landscape gardening to plant trees in rows, except such as are designed for wind-brakes. Nor should shade trees be evenly dotted over the front lawn. The preferable arrangement is in groups, leaving wide spaces, especially directly before the residence, with only two or three tall trees a little to one side to afford grateful shade from the southern and western sun.

TRANSPLANTING.

Never transplant when the soil is wet. It is better to transplant on a bright day, when the earth is dry than on damp or wet days, despite the general belief among amateurs to the contrary. Dry soil will pack much better around the roots, and the roots need more hospitality than the upper bodies of the young growths.

Water the plants thoroughly the night before they are to be moved. When ready to transplant, make the holes in the garden with a trowel, each to be large enough to take all the roots without crowding, but no larger.

Then bring the plants out. As soon as a plant is out of the pot, set it in a hole, press the earth firmly, but very gently around it; pour water in, wait till it has partly disappeared and press more earth around it.

When all the plants are in, work the earth very fine and smooth around each one, taking care that the upper layer of the soil seems perfectly granulated and dry. If wet spots appear after all the plants are set cover them with a sprinkling of fine earth. This is the mulching that these tender things need to keep moisture about their roots instead of letting it escape to the upper surface of the ground. Do not make the mistake of covering the plant itself in any way to "protect" it. If the roots keep cool and damp, as the mulching should keep them if it is done systematically for some days until the plants' show that they are thriving, the roots will take care of the rest of the plant.

IN RIVERSIDE PARK.

Of all the climbers the clematis family is the finest. The vines are more delicate and refined in beauty and growth than any of their rivals, but on account, perhaps, of the price being rather high and of more than usual care being required in starting them, they are by no means as often seen as could be desired. The purple Jackmanni is the largest and showiest and is in the greatest demand. It is a rapid grower and will climb many feet in one season. More of this variety is sold than all the others put together. There is no reason why this should be so, for there are several other varieties almost equally beautiful. The Madame Eduard Andre is a lovely crimson and a profuse and constant bloomer, perhaps exceeding all others in this respect. Its blossoms appear continuously from spring to fall.

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THE NEW WAY.

THE "horse doctor" formerly was a quack. He picked up a smattering around the stables of the racing men. The knowledge he lacked he made up by bravado. By the time he was gray headed he learned a few things that it was not well to do. He was trained like some people by the expensive school of experience, at the cost of much suffering on part of the animals and expense to the owner. He always charged all the people would pay. Today we have a noble class of men in the ranks of veterinary medicine, recognized as full-fledged members of the regular profession of medicine and surgery, affiliated closely with the scientific men of the medical profession.

The old idea was that a sick animal was to be left alone to die or get well with possibly the aid of some dose devised by the wild imagination of the stable boys. A favorite dose used to be boiled peach leaves for colic. By the time the leaves were gathered and boiled down to a pulp the horse was well or dead. If he was alive the dose was drenched down him and he was "cured."

How To Give Medicines.

The drenching of a horse is often attempted by unskillful hands and the animal receives a portion into his lungs; after a few days of suffering, dies. I had a man that knew absolutely nothing about horses and in one of our absences from home attempted to drench a four-year-old draft horse; when the horse resisted he had him thrown down and drenched him through the nose. When we came home an hour or so afterwards he told of it. He felt abused when we told him the chances were against the horse, for it was not proper to drench a horse through the nose. Sure enough the poor creature had received enough of the drench into the lungs to die within a few days.

Appliances.

Today the science of veterinary medicine has advanced to the point of making the regular doctor's outfit nearly as extensive as the instruments used by the regular medical attendant of the human family. The pop gun that shoots the ball of medicine down the throat of the astonished horse is one that is in common use. It often alarms the patient so greatly that it is weeks before he will open his mouth for the bit without a struggle. There is now a long list of hypodermic medicines for the horse. These are put up in neat cases with syringe and full directions. These are first aid rather than for dispensing with the veterinary surgeon. While I never hesitate to give a hypodermic to a horse with acute pain, still I send at once for a veterinarian; the prompt use of morphia often saves a rupture of the bowels.

Old Horses.

In California it is safe to say that nearly every old horse that dies while still useful, dies from stomach or bowel troubles. I sometimes think that the horses on the ranch would live forever if sudden colic did not carry them off. Now these faithful old friends need to be more carefully fed than the younger horses. They need to be watched; a little oil cake and bran mixed with dampened rolled barley will keep them thrifty for a long time. The old horse has a value from training in vineyard work that adds to his work greatly. He never tramps vines and any kind of a two-legged biped can handle him. He often is far wiser than his driver and more careful. Save the old horse for the slow, careful work and push the young one into doing the heavy or fast work.

"Floating" the Teeth.

The old horse, and, indeed, many young ones, have rough irregular teeth; these sharp edges wound the sides of the mouth and the food is bolted instead of chewed carefully. The veterinary dentist uses a broad file after pinching off the sharp points to make the mouth level once more. In California we often feed foxtail hay. The sharp points run into the mouth and often a mass is found under the tongue. Once a day the hands should be put into the horses mouth and all these pulled out. It is common to find horses that have breath so offensive from the rotten mass in their mouth that it is noticeable as you pass them tied along the racks.

Helps.

Many young horses bolt their food too rapidly for perfect chewing. There are corrugated iron boxes to prevent this as well as several other patents. The cobbles from the washes large enough for the horse not to be able to swallow make the cleanest things to use in the feed box. Three of these will alow the feed to drop between them, and the horse's nose must be pushed down to nibble up his grain. A mixed diet often helps the young horse as well as the older ones. Chopped up pumpkins or beets or carrots, five or six pounds once or twice a week, will take the place of green grass. Where a family horse is kept, if the cook will be careful to keep the tops of beets and outside leaves of lettuce and cabbage clean and free from grease, the horse will be greatly obliged to the hands that kindly add them to his food.

Fears.

The only fears that come to the horse owner should be the fear of not watching his health. A little extra care will make a horse live a long time and keep well. Every stable should have a half barrel to give a horse a foot bath when necessary. It should also have a three-yard Jersey bandage to be used on the leg that swells or stocks. The bandage is put on beginning at the hoof and after it is well wrapped, it is wet, then a pant leg or anything to keep it warm is slipped over it. This is the only water that should ever touch a horses' leg. Keep the hose off him and watch his teeth. Do not overwork or overload him. He will then serve you twenty or more years. I am driving a mare eighteen years old that has never lost a day from work by sickness since she was put into harness fifteen years ago. She is sleek and active as a well fed cat. Today she will out-race any colt in the pasture for the fun of going. Yes. Good old Morgan blood. Pity there are not more of them. They are spirited, but gentle, intelligent and loving to their owners. Nearer, perhaps, to the description of the Arab horse that lived in his master's tent with the children than any horse we have had in the country.—M. E. Sherman.

Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

HOW TO GET RID OF CAT TICKS.

The following brief directions ridding cattle and premises of Texas fever tick, prepared by Dr. F. Steddom, chief of the Inspec Division of the Bureau of Animal dustry, are issued as an aid to work of tick eradication which been undertaken by the Bureau in operation with State authorit This circular is especially applica from midsummer until the follow April to localities where but few tle are kept.

If the Southern farmers will make a united effort along the l indicated and thus co-operate w the local officials and this Bureau attacking the tick problem, m headway will be made, and our ul mate aim—the entire eradicati the tick and its direful conse to Southern agriculture—wil in measurable distance of acco ment.

The destruction of ticks wh on cattle and premises is the fi in procuring a free cattle traffic. following suggestions are, the made for the purpose of as owners of small numbers of tick tle to get rid of the fever ticks.

The term "ticks" as here used pecially applied to the fever These ticks are the more abunda the latter part of summer and the other kind being rarely p after the month of July. All are harmful, however, and shou destroyed.

The term "cattle" should be u stood to include all cows, steers, heifers, yearlings, calves and ox

Tick-free premises are th which there have been no ticky mals for nine months previously

The Hand Picking and Gre Method.

Cattle and premises may be from ticks by hand picking the c even though they are allowed to on ticky premises, provided they controlled and no other animals permitted on the premises. method of hand-picking and gre is most suitable in cases where are but few animals or for herds where the conditions for gr ing can not be changed. The me consists in carefully examining the cattle daily and picking or s ing off the ticks.. In this conne it must be remembered that h and mules sometimes carry ticks, therefore, these animals must al thoroughly and frequently exa and the ticks removed., The gre care must be exercised to collect destroy all the ticks removed. true that while this process is on the animals will get more ti them if the premises are ticky by diligently destroying all the ticks the supply finally gives o account of the seed ticks havin ished.

Arrange to examine all the and pick the ticks at least other day. All parts of the an especially the insides and back of the thighs, should be examin ticks. If any of the cattle are cult to handle, they should be d into a chute or narrow pen mad the purpose and where good ligh afforded. Ticks can be seen be sunlight. Ticks must not be thr on the ground, but should be plac in tin cans or other convenient sels and carried to a suitable p and burned or otherwise totally d royed, or they will lay eggs, and ed ticks will hatch in countless ımbers. Begin now to pick ticks ıd be sure that not a single tick ma- ıres on your cattle after September As a result of your trouble in ob- rving the precautions herein indi- ıted during the summer and fall, ıe cattle and premises should be ee from ticks by April 1.

To assist in preventing ticks from ettıng on cattle the cattle may be eased at the time of picking or as ten as may seem to be necessary. he greasy solution is obnoxious to ıe ticks, and if the legs and sides the animals are treated in this anner, the ticks will be less apt to awl on them.

In greasing cattle, use Beaumont ude petroleum or any crude oil, cot- n-seed oil, fish oil or lard. The fol- wing mixture will be found useful r this purpose: One gallon, of erosene, one gallon of cotton-seed l and one pound of flowers of sul- ıur. Any of the above may be ap- ied with a sponge, swab or brush, ıd should be thoroughly rubbed on l the lower parts of the cattle and least halfway up their bodies.

he Tie-Rope or Picketing Method.

This method is practicable where ere are only a few head of cattle. consists merely in picketing the ıttle out on tick-free pasturage. he cattle must be occasionally oved and the places where they ave been must be carefully avoided r some nine months thereafter.

he Two-Field Method.

On or before September 1 remove l cattle (including young stock ıd calves) from the pasture or range here they are to be kept after arch 15 of the following year. Do ot permit any cattle, horses or ules on such pasture or range dur- ıg the period indicated. If the remises in which the cattle are laced during this period adjoin the asture or range where they are to be ept after March 15 it will be neces- ry to set the dividing fence over me 10 or 20 feet on the pasture at e time of changing the cattle in arch. Be sure to examine every ead of cattle carefully for ticks be- re changing them in March. If cks are present on the cattle at this me and are not destroyed the pas- ıre will become infected and the ork will have to be done over again. the ticks are frequently removed y picking and the cattle are greased nmediately after they are taken om the pasture in September, the anger of future infection will be reatly lessened.

onclusion.

Any of the above methods may be llowed from midsummer until the llowing April.

Select the method best suited to our conditions and carry it out vig- rously. Help your neighbor to do he same.

Be sure that no other cattle pass ver the premises where your cattle o unless the other cattle are kept ree of ticks.

Do not let a single tick mature after eptember 1.

If everyone will do his part in get- ing rid of ticks the cattle quarantine vill be removed.

Water the stock, but never the ilk.

Cream Separators, all sizes, all prices. . J. Weber Co., 555-557 S. Los Angeles treet, Los Angeles.

AFTER-BIRTH IN COWS.

In my opinion sufficient attention is not given by dairymen to the "cleaning" of their cows after calving, and the retention of portions of the placenta, or after-birth, is a frequent cause of sterility and abortion in these animals.

Naturally the "after-birth" comes away cleanly of its own accord. Occasionally it is retained for over twelve (12) hours, and in these latter cases it is necessary to adopt treatment. Often the administration of a drench containing the following brings about the desired result: One ounce ammonia carbonate, twelve ounces sulphate of magnesia (Epsom salts,) two ounces common table salt, and one ounce of powdered ginger. Dissolve these in two pints of warm water or ale, and add a cupful of treacle. When thoroughly mixed the drench is given by the mouth with usual care.

If the "after-birth", remains intact after the drench has operated it is necessary to render assistance by passing the hand and arm, lubricated with carbolised vaseline, into the womb, and exercising gradual traction.

If the whole of the membranes have not been completely removed, and the discharge becomes foetid in character, the womb should be irrigated in a manner similar to that practiced in cases of contagious abortion. To do this all that is required is about one and a half yards of rubber tubing, one inch in diameter, and fairly stout; a glass funnel (bottle with bottom knocked out will answer,) and a supply of corrosive sublimate in tabloid form. The funnel is attached to one end of the tubing, and the other end, after being lubricated, is gently passed by means of the hand into the mouth of the womb. The corrosive sublimate is dissolved in water in the proportion of one part to 3000 parts, and then poured into the funnel which is held higher than the animal, so that the fluid passes into the womb. When the womb has been irrigated with a sufficient quantity, usually about a quart, the animal ejects the fluid, and frequently portions of the retained membranes will come away at the same time.

This treatment should be repeated daily until the discharge assumes its natural appearance or ceases. The buttocks and tail should also be washed down with the corrosive sublimate solution, which is a reliable germicide.—Agricultural Gazette of N. S. Wales.

FARMERS' SHORT COURSE.

Instruction in practical agriculture will be given at the University Farm at Davis next October and November. Courses in dairy manufacture, irrigation, soils, crops and cereals; poultry husbandry; animal industry; horticulture and viticulture will be given.

The course will extend from October 5th for eight weeks.

Different animals digest different portions of their feed. A steer fed on cornmeal will digest, it is said, 60 per cent of the protein in the corn, 93 per cent of the carbohydrates, and 92 per cent of the fat. A hog will digest 38 per cent of the protein, 94 per cent of the carbohydrates, and 80 per cent of the fat. The low digestion of the protein by cattle is the reason for its being a loss to fatten beef stock without hogs running wth them.

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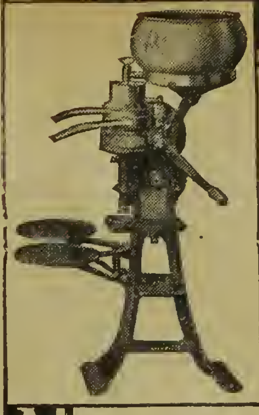

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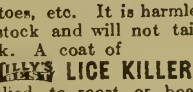

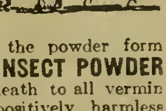

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AGRICULTURAL NOTES OF THE PACIFIC COAST.—Northern, Central, Southern, the Coast, 701.
PROFIT IN THE POULTRY YARD.—Profit From Small Flocks; Poultry Brevities; Whitewash; Feeding Little Turkeys; Doctoring Sick Fowls; Feeding Chicks; Whitewash the Hen House, 702, 703.
QUERIES AND REPLIES.—Takes Issue; Carbon Bisulphide; Mal-di-Goma; Tree Supports; Bitter Milk; Leg Weakness; Sauer Kraut; Rust; Sore On Leg; Possibly Tuberculosis, 704.
IRRIGATION AND FORESTRY—Pointers on Irrigation; Soap Trees; Practical Forestry, 705.
INDEX, 706, 707.
HOUSEHOLD.—Life is What You Make It: Story of Camera That Lied; Recipes; Homely Hints, 708, 709.
PRODUCE MARKETS.—Los Angeles Market; San Francisco Market; Citrus Markets, 710, 711.

LICENSE AUTOMOBILES.

The State of Ohio has a recent enactment by which all automobiles within the State must pay a $5.00 license fee. This regardless of the value of the machine. In addition, the machine is taxed by the regular tax collector the same as any personal property. This has caused much complaint on the part of automobile owners, but it appeals to us as having much merit. Of all the strong arguments in favor of good roads the automobile owner puts up the strongest. We believe, as a rule, everyone of his claims is good, but we believe his appeal for better roads would be received with more consideration by the great bulk of our people if they could feel that the automobile owner was bearing his share of that expense.

Much of the road improvement is maintained by abutting property owners, more by certain districts of each county, but an extremely small portion of it by State or general taxation. We believe the slight addition to the road fund which would be made by a nominal tax on each machine in this State, would be fair and at the same time advance the cause of good roads more than any other step which could be taken.

Much of the prejudice against the automobile is unreasoning and comes from ignorance of its true worth. This, we believe, is gradually disappearing with the more judgment used on the part of drivers of these machines, and we believe this step should be encouraged by automobile owners in order to show farmers who are more heavily taxed than any other class, the willingness of the machine owners to do their share. Occasionally a farmer in this State is joining the "cranks," which is an indication of the growing popularity of the machine.

TAFT AND SHERMAN.

The Republican National Convention finished its work quickly and well. Its nominees are able and conscientious men, its platform clear and unambigious, despite the fact that the opposition will claim the injunction plank a straddle. Above and beyond all other factors lies the fact that the Roosevelt policies controlled the convention, and as party platforms go, the Republican nominees are pledged to the aggressive fight for a "square deal." Tariff revision is one of the planks, and therein it has an interest for California producers.

OPPORTUNITIES FOR YOUNG MEN.

The opportunity for young men to secure positions where trained and intelligent service is required, is growing greater every day. The government in its various departments alone has openings for many of these trained workers to an extent that it is unable to secure anything like the number required. The Department of Agriculture has calls every day to solve problems, some of which it is unable to take up because of lack of the right men to send into the field.

We believe that scientific agriculture along other lines never had such openings as it has today. Skilled superintendents to take charge of large estates are as impossible to find as are the trained men for scientific investigation. The boy who attends school determined to fit himself for some of the higher callings of an agricultural nature, is reasonably sure to find the opening which will give to him reasonable compensation.

CROP CONDITIONS.

The condition of oats over the oat growing States is reported by the Department of Agriculture as from 10 to 15 per cent better than last year, and, as a rule, three to five per cent better than the ten-year average. Barley also, as a general thing, is much better than last year, the only exception being the "far west," which this year shows a condition of 70 per cent as compared with 78 per cent last year. Spring wheat on the contrary is not, as a rule, in as good condition as that of last year and falls slightly below that of the 10-year average. Winter wheat, on the other hand, from the June 1st report shows some States a 20 per cent better condition than at the same date last year.

FRUIT ON MESQUITE.

The claim by some of our friends on the Colorado desert that fruit can be successfully grafted or budded on the native mesquite, has attracted some attention, but, as a rule, caused a look of incredulity, which makes it appear that many people who have noticed the statement are in the "show me" class. However, the experiment may be easily tried by those who are situated in that section. Meantime, as one paper suggests, "Let us sit tight and say we neither doubt or affirm.

LAND OPEN TO ENTRY.

Thousands of acres of good farming land are to be opened to entry in the Los Angeles district. These lands are located in the forest reserves and will be thrown open under the Homestead Act. The lands are within the counties of San Diego, Riverside, Orange, San Bernardino, Los Angeles, Ventura, Santa Barbara, San Luis Obispo, Kern, Tulare and Inyo. Those desiring to file on these lands must make written applications to Gifford Pinchot, United States Forester, Washington, D. C..

THE INDEX.

Do you file your Cultivator? If not, do so. Those who have will find a fund of information in the volume just completed. This information may be had on short notice, by referring to the index which appears in this issue.

NAMES FOR THE RANCH.

A nice list of names adopted for ranches has been received and is crowded out by the index this week. Next week we will surely give the first installment. Meantime, send on the names.

With 71 beet sugar factories in the United States producing about 400,000 tons of beet sugar, it looks as if it took much sweetening to keep this great republic in a properly sweetened condition, but in addition we have the knowledge that other thousands of tons are imported to make up for our deficiency. California is producing its $10,000,000 worth and now has plans being drawn for the installation of another factory. But these increased facilities for manufacturing this product barely keep in touch with the increased demand. Let us grow more of our own sugar.

Two hundred delegates in session at Santa Cruz at the good roads meeting of the California Promotion Committee, adopted resolutions calling for the introduction and passage at the next Legislature of concurrent resolution providing for the appointment of a joint legislative committee to investigate conditions and outline a plan for a broad scheme of highway improvement. The following is the committee: Chairman, Charles D. Daggett of Los Angeles; L. P. Lowe San Francisco; James H. Gray, Santa Rosa; Geo. W. Pierce, Davis, and Wickham Havens, Oakland.

It is reported there has been some talk amongst the cantaloupe pickers of demanding $4.00 a day besides wages and board, but it is probable such wages will not be granted, because the labor of the best quality is plentiful enough this season that the fruit grower will not consent to any such holdup. If such action is taken it will only be one of the additional incentives to the farmer to work for admission of laborers who will be reasonable in charges for labor at such time of heavy crops.

An Imperial valley paper states that cantaloupe culture has demonstrated one fact conclusively, and that is that it is absolutely essential to get humus into the soil to obtain the best results. There are but a few ranches in Southern California outside of the peat lands where the same statement would not apply. The soil may be immensely rich, but lack of humus prevents the elements of the soil from becoming available to the roots. "With all your getting, get humus."

Fruit growers of the South are finding that the abolition of the strong drink traffic is aiding the fruit growers. That is, the consumption of fruit and fruitades increases as the consumption of intoxicants lessens. This, with the fact that many California grapes will be used in the production of pure unfermented grape juice, may be an item of good news to those growers who are concerned as to the outcome of the present temperance wave which is sweeping the country.

An exchange says it is "no wonder that the Adams Express Company with Senator Platt at its head is opposed to Parcels Post. Besides paying 10 per cent. dividends on $12,000,000 worth of bonds heretofore issued gratis to its stockholders, it cut another juicy melon a few weeks ago that lets in light on its phenomenal earnings. It issued $24,000,000 more bonds, or 200 per cent of its capital stock."

Considerable interest is being manifested in this State in the planting of flax. Some plantings have been made which were fairly profitable and with the advantage that fertility is conserved and land put in better shape for a crop of wheat than if planted to almost any other product. A San Francisco firm is said to be offering to contract for the seed at the rate of $2.20 per hundred pounds on the "pure basis."

Most California fruit growers wish revision which means tariff on our fruits "revised up." It will probably be the reverse unless the growers are prepared to meet the arguments of the Eastern manufacturers, who are well organized and are already opening the campaign to protect themselves.

With residents along the Missouri and Kaw rivers living in the upper stories of their residences because of the good boating below, Californians should be content with the various drawbacks of California climate.

F. C. of San Fernando says: "Enclosed find your dollar for the Cultivator. I consider it a very valuable paper for everyone interested in ranching."

gricultural Notes of the Pacific Coast

Northern California

asta county hay is yielding heav-

k Grove claims to be second only etaluma in its shipments of poul-

ktensive plantings of cotton at o have proved it a successful

eep growers in Red Bluff have ıed the task of dipping infested ɔ.

out 50 per cent of the average of grain is the estimate of Sut- ounty.

e sugar beets of Yolo county are nough advanced now that a good ıt is assured.

rmers near Williams have ad- bought 260,000 grain bags for season's crop.

e government is to do some ex- ve dredging and improving of Feather River.

e Almond Growers' Association tly met at Yuba City and elected new members.

e State Horticultural Commis- r's office has a quantity of comos for distribution.

e Claremont Pomological Club ıold its annual basket picnic at sha Park at Pomona.

re than three million sheep have treated under direction of the and federal authorities.

t crops near Woodland will run 15 tons per acre this season. ıverage last year was about 17

shipments of fruit are the cause e heaviest railway traffic "over ll" which has occurred in many s.

ugh much damage was done to rape crop near Healdsburg the lands will yet show a fairly output.

a rule the grain growers of the nento valley are happy over the ty of grain which will be mar- this year.

wool clip of Marysville of at 11,039 pounds was sold at the sale. 11 cents is reported to price secured.

tal is going to Sacramento val- d doing much developing, which sult in great good to the produc- terests of that valley.

extensive trial will be given hop g machines in Sutter county. reported that these machines succeeded well in Australia.

ma County Pomona Grange re- enjoyed an evening of jolly to take the place of some of rious discussions which often

riter in the Yolo Democrat says ıe work of the parasite of the ıg moth has proved very ef- in certain orchards in that

ge Compere recently returned China maintains that he has the l enemy of the mealy bug and s that it will be successful in nia.

sheep men of Mendocino county prived the privilege of sheep ıge on the reserve because of no inspector of sheep. They able to give proper certificates ing.

Central California

The Santa Clara valley cherry crop will be a bumper crop.

Field fires near Turlock are reported as doing much damage.

Tulare county is dipping about 300 head of cattle every day.

Packing houses in Visalia are open and working on green fruits.

A new kind of grape is being developed at the Experiment Station at Lodi.

The cannery at Los Gatos is now employing about 150 women and girls.

A short crop is reported for the coming year on the orange trees at Porterville.

A new dam has just been completed at the People's Ditch headgate near Hanford.

County Veterinarian Longey, of Tulare, is making a hot fight against the Texas fever tick.

Some San Joaquin county fruit buyers are endeavoring to buy green peaches on time payments.

Lindsay is some on Valencias as well as navels, having shipped something over 100 cars this year.

Orange growers of Tulare county held a meeting last week discussing the business for the coming year.

The Selma fruit growers formed an association for the purpose of packing and marketing fruits of that section.

Much thinning was done on apricots this year and much of that which was not thinned will be very small in size.

The grain crop on the west side of the San Joaquin valley is proving far heavier than thought possible a few weeks ago.

The frost damage to potatoes on the lower San Joaquin near Stockton, was exceedingly heavy about the first of the month.

Owing to the cool and uniform weather the cherry crop has ripened very satisfactorily this year. At no time has there been a glut.

The Visalia Delta claims the Centerville district has an orange tree which will produce 40 packed boxes. That is going some, sure.

A crop of Muscat grapes near Kingsburg promises good, but it is feared that if the weather should turn warm suddenly some grapes may be burned.

Tulare county fair management is working for a blue ribbon stock sale at the close of the fair this fall. It will be conducted by one of the best auctioneers in the State.

The fruit growers of Hollister held an enthusiastic meeting recently to debate the question of retaining a permanent inspector in that county. Mr. Leonard will be continued.

Fresno apricot growers are somewhat concerned as to the price of dried apricots. There seems to be a lack of inclination on the part of buyers to make extensive purchases.

Mr. Geo. Compere has left for a trip of investigation in European orchards looking after beneficial insects; or in other words, "a bug to eat the bug." He is under direction of State Horticultural Commissioner Jeffrey.

Southern California

Imperial valley is already marketing watermelons.

Rivera Valencias are showing up exceptionally fine.

Imperial valley is shipping out immense numbers of hogs.

Beaumont is selling large quantities of recently subdivided land.

First car of cantaloupes out of Imperial valley netted $2596.50.

Riverside hay crop will be normal. The grain crop is a little shy.

A new date farm has been established by Mr. Bell at Coachella.

Orange county celery planting will not exceed 3000 acres this year.

Ranchers near Santa Ana are complaining of the depredations of quail.

The cherry crop in Yucaipa valley above Redlands has been large this year.

One Highland orange grower reports $800 per acre gross from his ranch.

A Santa Ana farmer sold $1000 worth of green peas off of one acre of land.

Beet sugar factory experts at Santa Ana are drawing plans for the new factory.

Los Angeles has 600 men constantly at work on the great Owens River aqueduct.

Berry pickers at El Modena are having busy times to keep up with the ripening fruit.

The first carload of Coachella onions in Chicago was sold about the first of June.

Salton Sea is said to be drying up at the rate of eig-- inches per month at the present time.

Gifford Pinchot, chief of the Forestry Bureau, will inspect Trabuco and Jacinto forests.

A number of wild Mexican turkeys have been introduced to the San Gabriel national forests.

The walnut crop is said to make the most promising appearance that it has for the past ten years.

Orange county claims she will be one of the large sugar counties in the State, though one of the smallest in area.

Lake Elsinore has been sold by the Temescal Water Company and will now be used for storage of irrigation waters.

People of Orange county are endeavoring to secure the establishment of wild turkeys in the Santa Ana mountains.

Orange county has decided to make no display in the coming State Fair, owing to the lack of funds in the county treasury.

The death of several cattle after dipping for ticks near Santa Ana, has been followed by an investigation by the government officers as to the cause.

Imperial valley papers are appealing to the growers to be more careful in the picking of cantaloupes, many having gone to the market not fully ripened.

California Fruit Growers' Exchange report that the advertising campaign carried on in the State of Iowa has vastly increased the consumption of oranges in that section.

The Coast

Irrigation pumping is increasing in Oregon.

Washington is experimenting in oiled roads.

Fruits in British Columbia give promise for a big crop.

The milking machine is invading the dairies of Eastern Washington.

Union county, Oregon, crop of cherries this year will be exceedingly heavy.

At the recent live stock sale at Portland, Oregon, horses sold for $210.50 apiece.

A heavy rain June 4th did much good to crops at Walla Walla, Washington.

The condenser at Chehalis, Washington, is handling 85,000 pounds of milk daily.

Eighteen combined harvesters have been purchased in Dayton county, Washington.

The demand for alfalfa at Tacoma is keen with present prices prevailing at $14 and $16.

The use of silage amongst the dairymen of the Inland Empire is increasing each year.

Sheep to the value of $1,400,000 were killed in Eastern Oregon by coyotes last year.

The annual meeting of the Inland Threshers' Association was held at Spokane last week.

Kititas wool clip has been completed and the country will market a total of nearly 750 pounds.

Many agriculturists in Oregon are urging the extension of agricultural education in the high schools.

Continued cold weather and much rain have done much damage to farmers near Fairfield, Washington.

The farmers canal near Yuma, Arizona is gradually extending its field, having 3500 acres under cultivation.

Walla Walla, Washington, is suffering from the pest of ground squirrels, which have done immense damage.

The annual round-up of horses in the hills of Chelan, Kittitas, and Yakima counties occurred about the 1st of the month.

The State College at Pullman, Washington, is building a number of large buildings and will more than double its capacity.

The forests of the coast region of British Columbia will be protected this summer more completely than ever before by a large number of wardens just employed.

The Wenatchee forestry office has received many applications for permission to run sheep on the forest reserves, and many bands are already on the way to the reserve.

Oregon recently made one shipment of 1500 live chickens to Fairbanks, Alaska. Three tons of grain were shipped with them to keep them in food until arrival.

Vandals destroyed 10,000 crates of strawberries valued at $30,000 belonging to growers who are members of the Farmers' Irrigation Company of Hood River, Oregon. The destruction was caused by blowing up the flumes conducting water to the fields of the owners. Detectives are looking for the culprit.

PER 2 BUSHEL SACK **$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

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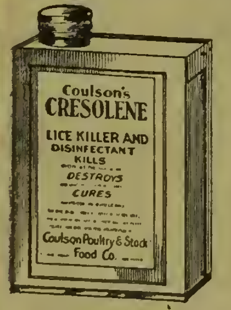

Coulson's Cresolene

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DISINFECTANT
AND DIP

Dilute With Water Before Using

CRESOLENE is a powerful disinfectant, insecticide, and germicide obtained from coal tar. It is non-poisonous, and non-corrosive and will do no harm to the most delicate skin.

It mixes readily with water, forming a milky emulsion, and can be diluted from 50 to 100 times it own bulk, in accordance with the different uses to which it is put.

Thus when you purchase 1 gallon of CRESOLENE you can make up to 100 gallons of the best disinfectant for use with stock, poultry, dogs or as a general disinfectant and insecticide.

This reduces the cost to 1 1-4 cents per gallon which is cheaper than anything else on the market.

PRICES: Quart can, 50c; one-half gallon, 85c; gallon, $1.25.
Freight paid on orders of one gallon or more.
Manufactured by

Coulson Poultry and Stock Food Company
Petaluma, California
Germain Seed Co., Los Angeles, Distributing Agents for So. Cal.

Little Chicks should be fed on Excelsior Chick Food

prepared from clean, sound grains, seeds, beef scraps and charcoal in proportions to make a well balanced ration and produce strong, healthy chicks and keep them continually growing. For sale by all dealers and grocers. Take no other.

Excelsior Cereal Milling Company
242 Central Ave., Los Angeles

MY BOSS MAKES MONEY

Because he raises poultry in the Inglewood Poultry Colony. Eggs bring a higher price there than they do anywhere else. If you are going into the poultry business, go in right and get a farm in the Inglewood Poultry Colony. Address for particulars

Inglewood Water Company
349 Wilcox Building Los Angeles, Cal.

When writing advertisers, mention Cultivator.

Profit in the Poultry Yar

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experience with poultry. All inquiries pertaining to feed management, disease and its prevention will be answered through these columns

PROFIT FROM SMALL FLOCKS.

SMALL flocks almost invariably give better returns per hen than large flocks, and this fact has led many a man and woman to embark in the poultry business on a large scale to their final sorrow. These people have figured that if they can net $2.00 per hen with a flock of a dozen hens, they can secure similar returns from a thousand.

It may be possible, but very few have realized it. In tending a small flock but little time is required, and that is gladly given as it is largely in the form of recreation. On the other hand, a thousand hens require one man's attention for the entire day. It becomes drudging and many little things are neglected that tended to make the small flock a success. Again, the question of feed enters as a factor. The few hens are fed largely on what would otherwise be waste. The large flock must be provided for out of the bank account. Very many families, both in city and country, can keep a few hens that will provide fresh eggs and many a good chicken dinner at a very small cost, while very few of these people could make the business pay on a large scale.

What One Small Flock Did.

In the autumn of 1905 I had occasion to select a flock of fifteen pullets for experimental purposes. They were White Leghorns hatched in the preceeding March from eggs bought of a neighboring farmer. In September they were placed in a small yard six feet wide and twelve feet long, two feet high and covered with wire. They had a small house three feet wide and six feet long. They remained in this pen until September, 1906, with the following results:

They laid during the year 1577 eggs or approximately 109 eggs each. These eggs were sold for $32.55. The average price was good, as many of the eggs were laid during the period of high prices. Each hen ate seventy pounds of a well-balanced ration; the cost of food was one dollar, leaving one dollar and twenty-five cents profit per hen. This illustrates what may be done in the back yard with a small flock of hens and at small outlay. In the case of most families the cost of feeding the flock would be much less, as they would consume table waste of small value.

POULTRY BREVITIES.

Examine your chicks for head lice.

* * *

Better a dozen well bred birds than a hundred scrubs.

* * *

Young turkeys cannot endure the hot sun, and many are lost for want of shade.

* * *

Chicks of different ages should not be fed together. The smaller ones will be crowded from the grain and will not thrive.

* * *

Don't fail to provide grit for your fowls if confined, and it is equally essential if the soil on which they range is adobe.

* * *

Don't sell small eggs; while it is possible that they may be as fertile and produce as many chicks as larger eggs, it is probable that pullets from such eggs will lay sn eggs.

* * *

Early hatched cockerels bring highest broiler prices. The ea hatched pullets are the most profita as egg producers. There is a disp tion with many poultry writers overestimate the profits of the po try business, consequently peo often start in the business with n taken ideas as to the possible turns.

* * *

Whitewash.

I would like information thro the columns of the poultry d ment of the Cultivator as to the method of preparing a whi adapted to use in the poultry and that will be durable. Wh have used flakes off badly. Is wh wash a good disinfectant? —E. G

The Government Whitewash made in the following manner: H a bushel, 16 quarts, of fresh lim slaked with warm water; cover du the process to keep the steam; st the liquid through a strainer-chee cloth, or gunny sack will do. eight quarts of salt previously solved in warm water, three po of ground rice boiled to a thin and stirred in boiling hot. Add pound of powdered Plaster of P and a pound of glue, which has previously dissolved over a slow Then add five gallons of hot wa the mixture. Stir well and let for a few days. Cover up from It should be put on hot. One pin the mixture will cover a square if put on properly; small brushes best. There is nothing that comp with it for outside or inside work, it retains its brilliancy for years. oring may be put into it and make any shade desired. It is good chicken houses to fill small cracks makes a smootth surface. W wash has not much disinfecting p but the above may be made a disinfectant by adding to the mix two pints of carbolic acid.—S. S

* * *

Can you tell me what is the of the excessive growth of wing my young chickens? I have a one hundred Leghorns, five weeks hatched in an incubator and largely on chick food. Their w in many cases, are so long that drag on the ground.—E. C. C.

Overdeveloped wings indicate the chickens have received a chec body growth, due to possibly w vitality, inherited from the parent to food and feeding. But I believe more common cause is faulty te ature in the brooders. Too cold badly ventilated brooders are res sible for much mortality among c ens. It is a law of animal dev ment that the bill, feet and wings tinue to grow when their g growth has been checked.—S. S

FEEDING LITTLE TURKEYS

We never feed young turkey til they are twenty-four to forty hours old, then we give them s small amount it can scarcely be ca a feed. One thing we must alw remember is not to overfeed the for they are very greedy little fello and if allowed all they could eat wo soon die.

We throw some fine grit or oys shells in the pen as soon as we the turkeys in. They will pick this while the old turkey is eating a liberal meal of shelled corn. Our first feed for the little ones is stale bread wet up with milk and squeezed dry; for this we always use whole sweet milk. If we have no stale bread on hand we give cottage cheese made by putting thick sour milk on the stove until the curd sets then turning it into a cheesecloth sack and letting it drain until it is very dry. Enough can be made at one time to last one or two days.

This cheese is the chief feed for the poults until they are about three or four weeks old; then we commence to give nice sweet cornmeal; do not use it if the least bit sour. We mix the meal into a stiff dough using sweet milk. We also have used shorts in the same way with good results. We feed our little turkeys while they are in the pen about every two hours. We give plenty of fresh water at all times in perfectly clean dishes. Milk, we consider a very fine feed for our turkeys all through the summer months. We also give it to the breeders in the breeding season. We use creamery milk exclusively, both for curd and for drink.

After the poults get large enough to stay in the field all day we give a small feed in the morning with fresh water in their trough, then we do not feed again until they are put in the park for the night, when they all get full feed with milk and water to drink. As they grow older we add wheat to their bill of fare. We have used the prepared chick feed offered in market but after a trial of several kinds we like our own mixture of curd and cornmeal best, as the little fellows seem to do best on these and grow faster.

If we wish them for breeders we feed very sparingly on corn until the weather begins to get quite cold. Barley we consider very poor feed for turkeys if given oftener than three or four times a week and then only in small quantities. We have learned that barley fed to our flock of turkeys in the fall after threshing will kill them; that is, if fed exclusively, as it is often fed to cockerels to fatten them while they are on the range.

DOCTORING SICK FOWLS.

A writer in Farmers' Tribune speaking of doctoring sick fowls, says:

Some poultry raisers advise the hatchet remedy at once if a fowl is sick, claiming that it does not pay to fuss with them, but I know of several instances where it has paid, one of which I will relate. We once had a case that for a day or two puzzled our "family physcian," and came near being fatal. It was noticed that one of the fowls, a nice pullet, went about with her mouth open, every little while shaking her head and making a queer gutteral noise. When feed was offered her she would try to eat but could not pick it up. As she was a fine Plymouth Rock we disliked to kill her. One morning my husband decided he would take her to the barn away from the rest of the flock as the disease might be contagious.

I opened her bill so as to look down her throat, when I discovered the cause of her trouble. In the hen house there was a block of wood on which we pounded bones for the poultry. She had got hold of a pointed piece, which, in an attempt to swallow, had lodged in her throat. The splinter was removed and the pullet soon took her food and retained her place in the flock instead of being banished on account of infectious disease or receiving the hatchet treatment.

Some years ago we had a flock of 50 hens which were furnishing us with a fine supply of eggs. On going to feed them one morning 26 were found dead. The trouble was pronounced cholera, but it was a source of wonder to us that they should be taken at the same time and die so suddenly. They were taken from the coop and buried, then we began to investigate and soon found the cause of the trouble. Some brine had been emptied on a manure pile the day before, thinking to put it where it would do no harm. The hens had worked in this, picking out bits of salt, then had gone to roost and gone over night without water, and the result was that fatal epidemc we called cholera. No matter what ails a fowl now, we want to know the cause of the trouble and an examination has to be made forthwith.

FEEDING CHICKS.

Professor C. K. Graham, of the Conneticut Experiment Station, finds the following mixture giving good results when fed to young chickens: Cornmeal, 35 per cent; ground oats, 30 per cent; low grade flour, 25 per cent; bran, ten per cent. It is mixed with skim milk to a soft dough and fed as much as will be eaten up quickly. When skim milk is not available beef scraps and water are used, but with less satisfactory results. To get a good grade of oat feed, Prof. Graham finds it desirable to buy whole oats and take them to the mill to be ground, thus avoiding the excess of hulls which are found in most of the purchased foods. This food is excellent in finishing chickens for market giving a fine texture to the flesh desirable for a choice, private trade where the object is to produce the most weight without regard to quality of flesh, he considers it doubtful whether any grain will give results equal to whole corn.

WHITEWASH THE HEN HOUSE.

Every poultry man should give the hen house a periodical coat of limewash, and the oftener he does it the better. The matter is a very simple one. If the house is small, all you may want is a whitewash brush, and a bucket of water into which a few handfuls of quicklime have been put, well stirred together, and allowed to settle. The stuff when put on should be about as thick as cream. A handful of common rough salt will help it to adhere to the walls, a spoonful or two of liquid carbolic will help it to do its murderous work on animal life, and a little bit of powder-blue (washing blue) will prevent the white coat turning yellow by and by.

If the hen house is a large one it will pay to use a sprayer for putting on the limewash. This is a most effective way of whitewashing any building.

When a hen has quit laying it is enough to cause her to loose her head over it.

HOMERS
Prolific Breeders
Winner of 1st pen at Breeders' Show
Satisfaction Guaranteed
C. E. Bunker
San Jacinto, Cal.

Indian Runner Ducks
Black Langshans
Stock at less than half price to make room for youngsters. Runners at 75c and $1 each. Langshans at $1 and $1.50 each.
LYDE J. MOSS Corona, Cal.

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As well as your Laying Hens, on
Coulson's Egg Food
It will bring them to maturity in health and vigor and ensure you lots of eggs in the Fall when prices are high. It can be fed moistened as a mash, or dry in hoppers. Manufactured only by
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Send for our Free Book, "Poultry Feeding for Profit"

West Coast Poultry Foods
After July 1st will be made in the new
West Coast Mill
Corner Alhambra and Griffin Aves. (S. P. Track) Los Angeles, Cal.

RANCH MIRASOL
Annual Clearing Sale of Breeding Stock
——Opens July 1st——
This is the Famous Mitchell Strain of S. C. White Leghorns
Laying Hens, $1.00 to $3.00 each; Cockerels, $3.00 to $20.00 each
☞ With every order for hens amounting to $15.00 or over we will give one $3.00 Cockerel as long as the stock of the latter lasts. This offer is good till August 1st only. We are taking orders now. ☜
Carl C. Curtis, Owner, Lincoln Avenue and Ventura St., Pasadena, Cal.
NORTH FAIR OAKS—ALTADENA CARS

Trap-Nested White Wyandottes
That won 22 ribbons out of 25 and 6 Silver Cups and a carving set and a cut glass vase. All the National White Wyandotte Club Ribbons. Second on 10 pullet pen, contest open to all breeds. Mammoth Bronze Turkeys, winners of 5 blue ribbons, all at Los Angeles County Poultry Association Show. December 7, 1907. White Wyandottes were judged by H. Berrar of San Jose, Cal., and W. W. Browning of Ogden, Utah. Hens and Pullets, $15 and $20 per dozen.
MISSION VIEW POULTRY RANCH, MRS. C. D. HUBBARD, SAN FERNANDO, CAL.

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S. C. White Leghorn and Barred Rock Eggs for hatching, $1 per 13, $5 per 100. Won 12 ribbons at last Breeders Show on White Leghorns. Prize winners, $2 per 13. All hens in our breeding pens are selected, 2-years-old, and are great egg producers.
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San Gabriel Car to Masonic Home then 2 blocks South

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Good, White, Typical Birds. Stock and Eggs For Sale.
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First prizes San Jose '06, and State Fair '07. Three 1sts and special, San Jose, '07. $50 cup best display Petaluma '07. Send for free '08 Catalogue and price list. Good breeding stock for sale cheap to make room.
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Now is the time to hatch BANTAMS
Golden Sebright, Buff Cochin, and Light Brahma Eggs, $2 per 15. Prize winners.
M. E. Dillingham Box 67, San Gabriel, Cal.

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Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Takes Issue.

In the issue of June 11 Mr. A. R. Briggs gives his second article on "Sulphuring Fruit and the Pure Food Law," which is not satisfactory to me nor I can say to others. An effort, seems to me, is being made to cover up the questionable methods of the packers, commencing with that part of the article, "The dried product goes then to the packer," and "In the packing house before it is put in boxes for distribution to the trade." "The fruit is again sulphured," etc. This article is evidently written in the interest of the packer. Any one acquainted with sulphuring and drying of fruit knows a resulphuring of fruit is a damaging process. This resulphuring has led to considerable criticism, chiefly from persons not familiar with the requirements of the trade.

Good Lord forgive us. The packers are an immaculate set. Heaven protect them. Don't let the trade requirements dissipate their "honest endeavors," for it might necessitate a resulphuring of their whole plant, animate and inanimate! I have been drying apricots for 35 years and claim to know something about the business. I think the hue and cry about sulphured fruit has been brought about by "the requirements of the trade," or getting all the trade we bear.—J. Hobart, Nordhoff.

We do not think Mr. Briggs is influenced by "trade requirements," other than as they affect the grower. However, that "resulphuring" has resulted in many abuses goes without saying.

Carbon Bisulphide.

In your issue of May 7 is a short article on the use of carbon of bisulphide to kill worms on peach trees. Is there any danger of hurting the young trees by applying too much or too close, or should liquid come in contact with wood or bark? Is wrapping the stems of trees with paper a preventative of worms?—Subscriber, Simone.

If bisulphide of carbon comes in contact with the roots while it is in the liquid form it will kill the trees. It should be applied in such quantities to the surface of the ground that it will not soak to the depth of the roots, but must reach the roots in the form of a vapor. We would not recommend applying it to the wood of the trees so that it will come in contact with the bark. If it is to be used for borers in the branches or trunks, inject the liquid into the worm hole with a small syringe in quantities that will enter without overflowing. If the burrow takes an upward course the bisulphide will not do good, as the gas is heavy and flows downward. Wrapping or painting with whitewash will prevent borers from entering. The borer only attacks trees or branches that are injured by the sun.

Mal-di-Goma.

Will you be so kind as to let me know through the Cultivator what is the best treatment to prevent root rot on orange trees, and if there is any way to cure a tree after it is affected by this disease? I have noticed several places here and elsewhere, where the trees are suffering on acount of this cursed root rot, and it is hard to discover until the tree fades, which makes it very hard on the grower. I would like to hear from you in regard to it, and also from some of the able writers in your great paper.—C. E. J., Anaheim.

We assume that you refer to the foot-rot. It is doubtful if an orange tree ever wholly recovers from a severe attack of this dread disease. The preventive for this is to keep the surface of the ground at the base of the tree in a dry and friable condition. It is in most cases brought on by an unhealthy condition of the soil in conjunction with too much water at that point, and especially in hot weather. It has been traced directly to the combination of stable manure and water at the base, under conditions that produced some sort of fermentation in the soil. The best treatment is to remove the soil and cut out the diseased bark and apply some sort of cleansing wash. Diluted crude carbolic acid is generally used. Paint the wound with some sort of cheap wax and cover with fresh soil that is barely moist.

Tree Supports.

Can you tell me where I can get the wire limb supports?—J. H., Nordhoff.

Address J. K. Woodward, Riverside, or R. M. Teague, San Dimas.

Malthoid Roofing

Mr. H. B. Eakins, of the Commercial Warehouse Co., Los Angeles, Cal., U. S. A., writes: "Now that we have had two good rains to test our Malthoid roof, we have desire to express our satisfaction in the knowledge that we have a covering over our head that does not leak. We write you regarding our pleasure in this matter from the fact that we had fully expected more or less trouble, as we did not believe it possible that so large a roof surface could be covered with any material and stand the test of a first rain, but there was not a leak due to defective roofing."

The Paraffine Paint Co. San Francisco California

E. G. Judah, General Representative, Security Bldg, Los Angeles

Bitter Milk.

I have a cow, farrow, 3½ years since she was fresh, but yet giving us abundant milk for our purpose. Milk is usually sweet, but at times, after standing 6 to 12 hours, will become exceedingly bitter. Is this caused by fact that she is farrow? And is there any remedy?—J. C. O.

Usually the fault of keeping milk at wrong temperature—when chilled enough will keep all right. If temperature was higher would sour, naturally, by lactic acid bacteria. Wash-scald everything well and then try keeping the milk either colder or warmer. This bitter bacteria comes from spores that are hard to destroy. —M. E. S.

Leg Weakness.

I believe if "Subscriber" of San Jacinto and "H" of Modesto will kill some of those afflicted pigs and make a thorough examination they will find either kidney or measles worms the cause of the trouble. If either of them tries Dr. Whiting's remedy, wish they would let readers of Cultivator know with what success.—M. C. Burnett, Fallbrook.

Sauer Kraut.

Will you please give me a recipe for sauer kraut? Will it keep well made this time of the year?—M. A. V., Bonsall.

See issue of Cultivator of Feb. 27, page 229, or that of April 2, page 389. On these pages are three good recipes.

Rust.

My logan and blackberry vines are affected with rust and the vines keep dying off. Can you recommend a spray for this and if so state at what time it is best to use it.—J. W. A.

There is no remedy of much value at this season. When fruit is off cut out all old canes and burn. Spray with weak Bordeaux, say of strength of 3-3-50, then in winter spray with 5-5-50 formula.

Veterinary

Dr. R. T. Whittlesey, veterinarian, of 714 East Seventh street, Los Angeles, will answer questions in this department. In writing of sickness or injury to any animal be explicit in giving symptoms and particulars. Always enclose full name and address, but if assumed name or initials are preferred they will be used.

If an immediate mail reply is wished enclose $1.00 for such service, but for replies in paper only, no charge is made if the answer will be of general interest.

Sore on Leg.

Kindly tell me through the Cultivator what to do for sores on a donkey's legs. Every summer sores break out on the forelegs, mostly on the joints. They seem to itch, as he bites them. We have used several salves and have healed some, but it has taken a long time, except one, which we cannot heal. It has grown to be as large as a dollar and seems to be swollen. Sometimes it runs matter. The flies bother it a great deal, no matter what we put on it. He is fed good hay.—A. F.

Use the following: Formalin, 2 oz., water, one gallon. Saturate cotton and bandage it over sore. Leave two days and repeat the dressing.

Possibly Tuberculosis.

I have a sick cow and cannot find out what is the matter so do not know how to treat her. Have consulted several veterinarians, and they do not know what the matter is. She is one among several that are affected; all affected cattle have been in the same pasture. Cow about eight years old; last calf five months old. When taken sick was in good condition. She strains as if trying to urinate, but passes very little water at time; eyes about half closed, is dull, phlegmatic and very weak; appetite good, eats heartily, but loses flesh all the time. Some of the affected cows had difficulty in breathing. No young stock affected. Several have died. One was dissected and the only clue to trouble was that the bladder was a little full but not to any great extent.—J. S. C., Watsonville.

Have them tested for tuberculosis by a competent veterinarian and let us know the result.

Aphis.

Enclosed please find sample of orange leaf which seems to be affected with some kind of disease. Will you please tell me through the columns of your paper what the disease is and a remedy to prevent its spreading.—A Subscriber, Woodland.

The orange leaves sent have been infested with aphids, but these have all been parasitized with a Braconid fly, which has reduced them to a state of harmlessness. Aphids cluster in colonies and sometimes form great masses, but they have a natural enemy in the little Braconids, internal parasites, which deposit an egg in each aphis, and this hatching out into a minute grub, ends the career of the particular aphid attacked. As the internal parasite attains maturity the aphid swells into spherical shape and at last the internal insect cuts a round hole in the upper part of the now empty and swollen skin of his host and escapes leaving the bloated skin of his former host behind. These orange leaves have been infested with aphids, but all have been parasitized and there is nothing but the empty skins left, these have been somewhat crushed out of shape. Our correspondent need have no fear from this source, and if all his insect enemies were in like condition he would be fortunate.

HOW TO KEEP WATER COLD.

"Having tried it, I recommend the following mode of keeping ice water for a long time in a common pitcher," says a writer in Woman's Home Companion for July. "Place between two sheets of thick brown paper a layer of cotton batting about half an inch in thickness; fasten the ends of the paper and batting together, forming a circle, then sew or paste a crown over one end, making a box the shape of a stovepipe hat minus the rim. Place this over an ordinary pitcher filled with ice water, making it deep enough to rest on the table so as to exclude the air, and you will be astonished to see the length of time that the ice will keep and the water remain cold after all the ice has melted."

DIVIDEND NOTICE.

San Francisco Savings Union.
N. W. Cor. California and Montgomery streets.

For the half year ending June 30th, 1908, a dividend has been declared at the rates per annum of four and one-quarter (4¼) per cent on term deposits and four (4) per cent on ordinary deposits, free of taxes, payable on and after Wednesday, July 1st, 1908.

Depositors are entitled to draw their dividends at any time during the succeeding half year. A dividend not drawn will be added to the deposit account, become a part thereof and earn dividend from July 1st.

LOVELL WHITE, Cashier.

DIVIDEND NOTICE.

The Savings and Loan Society.
101 Montgomery St., Corner Sutter St., San Francisco.

For the half year ending June 30, 1908, a dividend has been declared at the rate of 4 per cent per annum on all deposits, free of taxes, payable on and after Wednesday, July 1, 1908. Dividends not called for are added to and bear the same rate of interest as the principal from July 1, 1908.

WM. A. BOSTON, Cashier.

rrigation and Forestry

FEW POINTERS ON IRRIGATION.

ALMOST the total expense of preparing for irrigation is due to construction of field laterals d furrows. In those cases, including rhaps the majority, where the mak- of the furrow serves also as a cul- ation, the cost of making them ould not be charged wholly against preparation of the ground for irri- tion. The distance apart of the lat- ls in the field depends chiefly upon ich of the methods of irrigation is be employed. It depends also to me extent upon the character of the l in respect to its capacity for the pid absorption of water, and upon lay of the land.

For flooding, the laterals are placed m 100 to 300 feet apart. The eater distance obtains on wild hay d and the lesser in the irrigation of alfa and small grain growing on ls which take the water readily. average distance apart of laterals cultivated fields which are to be ir- ated by flooding is 125 to 150 feet. eder laterals for furrow irrigation placed at greater intervals, rang- ordinarily from 300 to 1200 feet, cording to the lay of the ground and carrying capacity of the furrows. ere is a general tendency to build erals closer together, as it is found at the water is more easily and ef- tively handled in this way.

The field laterals are very generally ade about one foot wide on the bot- m, one foot deep, and from four to feet wide on top. The grade, of urse, varies to some degree with the y of the land, but a fall of five feet the mile is common and is quite nerally recognized as a minimum low which it is not desirable to go. e common stirring plow, the lister, e wooden V, and the reversible ade machine are all used for the con- ruction of laterals and approved by perienced irrigators. The blade ma- ine is considered better than the V clay or rocky ground. The reversi- e machine requires about twice the rce of men and horses to work it at the V does, but when used sys- matically the work can probably be ne at somewhat less cost than with e V.

A superintendent of large experience timates that two men and two ams with a V can complete from one three miles of field laterals a day, pending on the condition of the ound. For irrigation by flooding is would be sufficient for the irriga- on of from twenty to sixty acres. llowing $6 a day for men and teams, e cost for an acre would be from n to twenty cents. For turning the ater out of the field laterals all of e better known devices are in se such as canvas dams, sheet-iron ams and dirt checks. The sheet- on dam is especially satisfactory in laces where digging is undesirable, in fields of alfalfa or of small grain, nce it can be set and removed with- ut the use of the shovel.

In flooding, the laterals are dammed nd opened at intervals ordinarily oming within the range of from fifty 100 feet. For furrow irrigation of eneral field crops the furrows are us- ally made with a plow or lister when rge furrows are required. A disk ultivator makes a good furrrow for atering corn and potatoes. When he earth must not be thrown against he plants, as in the case of beets or ines, a smaller appliance known as n irrigating shovel is attached to the ultivator and makes a neat furrow.— ield and Farm.

SOAP TREES.

Consul-General Richard Guenther makes the following report from Frankfort. Germany:

"Mr. R. Lang. of this city, councilor of commerce and delegate to the Government of Algiers, states that he has just returned from a commercial tour of study in Algiers, where he was called by that government. During his trips he met one of the largest landed proprietors, Mr. S. Bertrand, chairman of the Algerian Agricultural Society, at L'Arba, near Algiers, whose domain comprises many thousand hectares (hectare, 2471 acres.) which are planted with vines, oranges, olive and soap trees. He has succeeded, after numerous experiments, in cultivating a large plantation of soap trees, from which he gathers several thousand tons of berries annually. The soap tree resembles an apple tree of medium growth. The fresh fruit is green, the interior of which, besides the kernel, contains a yellowish gelatinous, sticky substance. The fruit, used for making soap, contains three times as much soap as the 'panama' wood. It seems to be destined to be of great service to the cloth and linen manufacturers, and above all, for domestic purposes, as it can be used to clean linen and silken fabrics and colored embroideries.

The almost world-wide movement to protect and establish forests has reached China, and the first Chinese school of forestry will shortly be opened at Mukden, according to a recent report by Consul-General H. W. Ragsdale, at Tientsin. The Chinese empire is usually pointed out as the worst example, among modern nations, of forest destruction. The floods which are periodically poured down from the denuded mountains are destructive beyond comparison with any other country, and the want of forests is assigned as the chief cause. Wood is scarcer in China than in almost any other region in the world, although the country is well adapted to the growing of trees. In the establishment of a forest school the Chinese government gives evidence that it realizes the need of beginning its reforestation in a scientific manner.

FOR PRACTICAL FORESTRY.

A gift of two thousand acres of forest land in Massachusetts to Harvard University by a number of Massachusetts citzens is one of the most acceptable gifts that a great universty could receive at the present time. The nation has adopted a comprehensive forest policy and most of the States have enacted forestry laws. The American people have awakened to the fact that there is peril in the wholesale destruction of the forests that has been going on unchecked, and statesmen keenly realize the necessity for adopting the regulations and methods that obtain in European countries for the preservation and restoration of the forest growth.

Forestry has assumed in this country the importance of a science, and we look to the universities to turn out trained men to apply that science for the benefit of the country. The forest tract presented to Harvard will be well adapted to practical trainng in all branches of forestry, and its treatment will make a valuable object lesson for owners of woodland.

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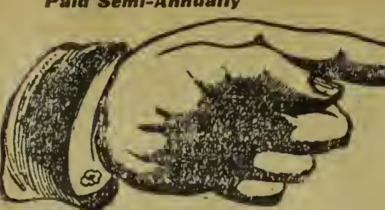

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44 acres black loam mixed with lime rock gravel, in the head of the Nipomo Valley, rich warm friable soil that is hard to beat anywhere. Has 6-room hard-finished house, very convenient, large barn, good out buildings, about 5 acres orchard, apples, almonds, apricots, figs, pears, peaches, plums, prunes, quince, nectarines. Also grapes, currants, gooseberries, blackberries, loganberries, raspberries and dewberries. All these fruits do fine, and there would be big money in extensive planting of currants and gooseberries, as they do exceptionally well, and the market is first class. The place is 2 miles from Nipomo on splendid road, and is a grand buy at $4750.00.
We also have a fine buy in a completely equipped and well stocked 15-acre poultry ranch at $3500.00, including everything on the place, even the house furnishings.

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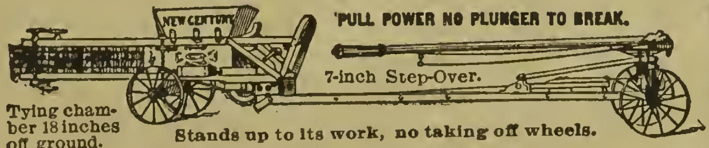
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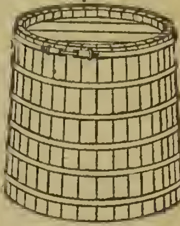
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FOR SALE—7 1-3 YEARS LEASE ON THE Twin Pine Poultry Ranch, situated on the Los Felis Road, West of Pigeon Farm, less than three miles from Court House, consisting of four acres with all of the plumbing extending over the 40 yards and runs; abundance of water free and irrigation water twice a month; cow, horse, harness, wagon; about 1000 hens and chickens, pigeons, hares, five incubators, brooder house and 13 brooders, and other small buildings, all fencing included, and abundance of fruit. It must be seen to be understood. Lease includes five rooms of a seven-room house, a small rock house and barn room. Rent, $19.17 a month. Address, I. S. CROWFOOT, Route 5, Box 139, Los Angeles.

FARM TO LEASE.

FOR SALE—PIPE—WE HAVE 25,000 FEET good 2-inch for 9c per foot; 1000 feet good 10-inch O. D. screw casing for 75c per foot. 100 feet good 15-inch stove pipe casing for 90c per foot. All other sizes and fittings cheap. All sizes boilers and engines, etc. A. CANNADY & Co., 1029 N. Alameda St., Los Angeles, Cal.

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PARTRIDGE WYANDOTTES—C. ANdrews, 823 W. Franklin Ave., Hollywood, Cal.—1st cock, hen, cockerel and pullet; 2 cups, Poultry Breeders' Show, 1908.

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SHIPPING CRATES FOR POULTRY. Write for particulars. Established 1900. A. & H. SEIBEL'S SONS, 320 E. 6th St., Petaluma, Cal.

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YOUNG THREE-QUARTER SWISS TOGgenburg Buck, $10.00. Choice thoroughbred Angora Kittens, $10.00. SWISS GOAT DAIRY, 130 Carey Ave., Pasadena, Cal.

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Household Department

LIFE IS WHAT YOU MAKE IT.

To the preacher life's a sermon,
To the joker it's a jest;
To the miser life is money,
To the loafer life is rest.

To the lawyer life's a trial,
To the poet life's a song;
To the doctor life's a patient
That needs treatment right along.

To the soldier life's a battle,
To the teacher life's a school;
Life's a "good thing" to the grafter,
It's a failure to the fool.

To the man upon the engine
Life's a long and heavy grade;
It's a gamble to the gambler,
To the merchant life is trade.

Life's a picture to the artist,
To the rascal life's a fraud;
Life perhaps is but a burden
To the man beneath the hod.

Life is lovely to the lover,
To the player life is play;
Life may be a load of trouble
To the man upon the dray.

Life is but a long vacation
To the man who loves his work;
Life's an everlasting effort
To shun duty to the shirk.

To the heaven blest romancer
Life's a story ever new;
Life is what we try to make it—
Brother, what is life to you?

—S. E. Kiser.

THE STORY OF A CAMERA THAT LIED.

THE man from Goshen, Ind., was aboard with a grouch. "I'd like to know what this world's a-comin' to, anyhow," he grumbled. "It's got so you can't believe anybody. There ain't any such thing as honesty and honor nowadays. Used to be you could trust some people, but you can't do it now."

"Oh, I don't know," said the red-headed man in the corner. "I guess we're no worse than our ancestors. There was a fellow named Solomon who declared that all men are liars. And that was some time back."

"Yes, but they were just plain liars then," insisted the grouch. "They didn't have the arts and sciences to help 'em make their lies look so much like the truth you couldn't tell 'em apart. Solomon's liars were all in the kindergarten class. They were just beginnin' to get ready to commence to be liars. If a bunch of 'em could drop in here now they'd be so honest by comparison we'd have to chase 'em right out again."

"Well," said the passenger from San Francisco, "I wouldn't go so far as to say that there is no such thing as truth in the world, but our friend here is right in saying that the aids to falsehood are growing more numerous and more cunning every day. Take photography, for instance. Only a few years ago it was an accepted axiom that the camera could not lie. Now just look at it. Of all the unprincipled, mendacious, absolutely soulless liars on the face of the earth the camera is the worst. Why, only the other day I saw some photographs of polar bears strolling down Fleet street, in London, a hippopotamus sporting around the piers of the Tower bridge in the Thames, and lions taking an afternoon nap in the ruins of St. Paul's Cathedral. Another photograph showed an automobile jumping a fence in a fox chase. Wouldn't that make Solomon open his eyes?"

"It sure would," answered the moon-faced traveler from Toledo, "but he'd 'a' shut 'em again if he'd seen the camera lie I got mixed up in not long ago."

"How was that?" inquired the red-headed man in the corner.

"It's a family affair," began the Toledo traveler, "and a rather delicate subject, but I won't name any names, at least no real names, so the tellin' of it won't do anybody any harm, and it will illustrate this camera business. I've got a very particular friend I'll call Jones, because it's a simple name, easy to remember and doesn't belong to him. He's one of the best fellows in the world, square as they make 'em, and although he's been married fourteen years he still thinks his wife is the only one. I butted into Jones' private office one day not long ago without knockin', bein' a privileged character, and found him stalkin' up an' down the room, runnin' his fingers through his hair, grittin' his teeth and mutterin' to himself like the villian in a melodrama. He didn't notice me for a minute or two, just kept up his walkin' stunt as if he had a bet on, until I slapped him on the shoulder.

"'What's the matter, old man,' I says; 'don't your feet fit you?'

"Then he stopped and glared at me, and clutched his hands like he didn't know whether to take a strangle hold or a knockout. His face was so red it was nearly purple, and his breath was whistling out through his teeth like the exhaust of a worn-out steam engine. Honestly, I was scared, and I was figurin' on whether to call for a doctor or a policeman when he dropped into a chair and covered his face with his hands.

"'There, there, old chap,' I says; 'you'll be all right in a minute. What's up, anyhow?'

"'Bill,' he says, after a while, when he got his bellows under control; 'Bill,' he says, 'you're my friend. I wouldn't say anything about it to another man on earth, but I can trust you, Bill. Just look at that.'

"He picked up a photograph from his desk and handed it to me."

"'That came to me in the last mail,' he said. 'There was nothing to indicate who sent it.'

"The photograph was a large one, about twice the size of a cabinet. It was a picture of a man and a woman, standing, the man with his arm around the woman's waist, the woman with her head on the man's shoulder. Both, judging from the expressions on their faces, seemed to be pretty well pleased with themselves. The woman was Jones' wife. The man was not Jones."

"It knocked me silly, I can tell you. If it had been an anonymous letter you could have pooh-poohed it. But this was the goods. There wasn't any answer to it. And I couldn't open my mouth."

"'Well,' he said, after a bit, 'don't stand there like a dummy. It ain't your funeral. What do you think about it?'"

"'I can't think, Tom,' I says. 'I can't believe it. It isn't possible.'

"'Oh, cut that out,' he says. 'The evidence is conclusive. The question is, who is the man?'

"'What, don't you know him?' I cried.

"'No. Do you?'

"'Yes,' I answered, 'and that makes it all the harder to understand, Tom. He's a friend of mine, or was! not as close as you, Tom, but a good friend, and I never would have believed him to be one o' that sort. Unless he's got a double, Tom, that's Jack Smith.'

"'Very well,' says Jones, shutting his teeth hard and reaching into his desk for a revolver. 'Very well; I'll go over and call on Mr. Smith right now.'

"'Now, look here, Tom,' says I. 'That sort o' business won't do. If things have got as far as it looks, you're not goin' to help matters by makin' 'em worse. You've got some children, you know. You're goin' to remember them, and you're goin' to protect them from scandal, or you're no friend of mine, Tom,' I says. 'Besides, Tom,' I says, 'I feel it in my bones that there's some shenanegan about this. I don't know how it can be, but there's not goin' to be any rough house over this business if I can help it, Tom, until we go to the bottom of it, at least."

"Well, I talked to him like a Dutch uncle for half an hour before I got him to put up his gun and go with me to see Smith. Smith was in his office, and without any howdy-dos or introductions I put it up to him straight.

"Jack,' I says, 'look at this photograph.'

"Well, sir, you ought to have seen that man's eyes stick out.

"'For God's sake, Bill,' he cried, 'where did you get that?"

"'That ain't the point, Jack,' says I. 'The question is, is that you?'

"'It's me or my image,' he says; 'but as sure as there's a God in heaven, Bill, I never stood for this picture, and I never saw this woman in my life.'

"'Do you mean to say, sir,' broke in Jones, shakin' his finger in Smith's face, 'th at you never had this photograph taken with my wife?'

"'Now, see here, sir,' said Smith, backin' up. 'I don't permit any man to come at me like that. You've heard what I said. That's straight. I don't repeat.'

"Tom turned to me, shakin' like a leaf and as white as a sheet. He was all gone to pieces, yet it was as plain to him as it was to me that Smith was telling the truth.

"'Jack,' I says 'come down off your high horse. This is Tom Jones, the best friend I've got in the world, not even exceptin' you. You're a married man and ought to understand how he feels about it.'

"That was enough for Jack. He held out his hand.

"'Mr. Jones,' he says, 'I beg your pardon. That is my picture, but it is not me. I don't understand it, but if your wife is as innocent of any conscious connection with that photograph as I am, you've got nothing to worry about. And if I'm innocent, the chances are a thousand to one that she is.'

"Tom looked at Smith for a minute and then took his hand and shook it like he was workin' a pump handle.

"'I believe you,' he says. 'I can't see the way out, but maybe there is a way. Maybe there's a trick.'

"'There must be,' says Jack, 'and it's the devil's own. I'm mixed up in this thing now, and we're going to see it through together. I have a right to know the truth.'

"That's it, exactly,' says I. 'And let's get busy.'

"Jack picked up the photograph and looked at it closely for several minutes.

"'I begin to see a light,' says he, after a bit, 'but it doesn't help me to understand it. I never had a suit of clothes like that. I never had a tch chain or charm like that. I ı't wear a ring.'

'Let me have it, quick!' cried ıes. 'I see! I see!' he gasped, rung over with excitement. 'I didn't k at anything but the face before. ıt isn't my wife's form; it's too ge. She has no dress like that—'er did have. Look at that brace- Bill. It isn't hers. But it's her e. There never was another face that, Bill.'

It's her, and it isn't; it's Jack, and sn't,' says I. 'Now, where are we I am worse puzzled than ever.'

So'm I, so'm I,' says Jones; 'but a trick, it's a trick, Bill. My 's all right. That's the main thing. sure of it now.'

'Good!' cries Jack, then he turns me.

'Bill,' he says, 'do you happen to ɔw a photographer you can trust?'

'Sure,' says I. 'There's one across street that's as safe as a burglarof.'

Well, phone for him to come over.' In three minutes we had the photopher in that office. In two minutes re, with the aid of a pocket microspe, the mystery was solved. nebody had got hold of a photoph of a man and a woman in a lov- attitude. Then they'd got photophs of Jack and Mrs. Jones, cut their heads and pasted them over heads on the group, took a little oring of some kind and touched up edges around the patch so they uldn't show, and then put this ked-up affair before the camera l made a new negative. Nobody an expert could do it, but this was well done nobody but an expert ıld have detected the fraud. We n't stop, you can bet your life, un- we found out who did it. It was woman. We managed to let her ɔw that we knew, and let it go at t. But Tom Jones never breathed vord of it to his wife."—S. F. Chron-

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RECIPES.

l Pepper Pickles.

'o pickle bell peppers cut a slit in h pepper and remove the seeds. them soak in strong brine for two 's, then wash in clear water and ff with red cabbage finely chopped seasoned with minced onion and stard seed. For three days in sucsion pour over them boiling spiced egar and then seal up. They are y nice prepared in the same way omitting the stuffing.

serving Small Fruits.

'ry preservi~g cherries this way: er pitting, cover with vinegar and them stand forty-eight hours. in and pack in stone jars, allow- a cupful of sugar to each cupful cherries. Stir every day until ar is dissolved. They are delius with cold meat, or can be used puddings.

o keep cherries solid or whole en canned, pit them in the even- ; have in readiness any vessel ge enough to hold them. Let ıd until morning and then can or serve them. When opened for they will be as solid as when kled.

n easy way to can strawberries, pberries and red currants, and one which they retain the very best or, is to do them raw. I have e them successfully for three rs and never have lost a jar. The ; must be scrupulously clean and rubbers new; it is false economy try to use old ones. Mash the ries, a few at a time, in a sauce dish, to be sure every one is mashed, using, of course, perfect fruit; then to one cupful of mashed berries add one cupful of sugar. Stir well, fill jars to overflowing and seal. Certainly very simple.

Nut Ice Cream.

Two quarts cream, 1 pint milk, 1½ cups sugar, ½ to ¾ pound chopped black walnuts. Freeze together.

These nuts give the cream a delicious flavor.

HOMELY HINTS.

Odors of Araby.

Sweet clover blooms carefully dried in the shade until well cured, packed loosely in cheesecloth bags, give the linen a faint and dainty perfume that will woo any mortal to pleasant dreams.

Rose Leaves.

Dried rose leaves give to laces a sweet fragrance, and lavender has a clean, refreshing scent. It has been called a brain stimulant. The rose petals should be gathered from fresh —not faded—full-blown flowers while the dew is upon them, as it is a well-known fact that the heat of the sun absorbs much of the fragrance. Dry the petals in a cool, dark room, turning and stirring them frequently. When thoroughly dry they are ready for use, and until wanted keep in tightly closed glass jars. The flowers of lavender are stripped from their slender stalks and dried in the same way. The fragrance of dried tips of mignonette is as soothing to nervous people as far-off music.

For the popular satchet bags a most delightful filling is composed of dried rose leaves, half a pound; dried lavender flowers, quarter of a pound; an equal quantity of mignonette tips; and half as much sweet basil, which has a clove-like fragrance.

Sweetness and Light.

Rose geranium and lemon verbena leaves, tips of rosemary, fennel, sweet fern and lemon thyme are all used singly or in company to create goodly scents. Pillows or little bags filled with these aromatics are very grateful to invalids. The odor, half balsamic and always suggestive of "sweetness and light," acts as a tonic.

Tips of camphor laurel, mint, sweet basil, sage, sassafras, rue and wormwood, well dried and packed in thin cheesecloth bags, will perfume woolens and act as a preventive of moths. The dried leaves may be scattered freely among furs or ground into fine powder and rubbed on the edges of carpets. The perfume they throw off smells much like sandal wood.

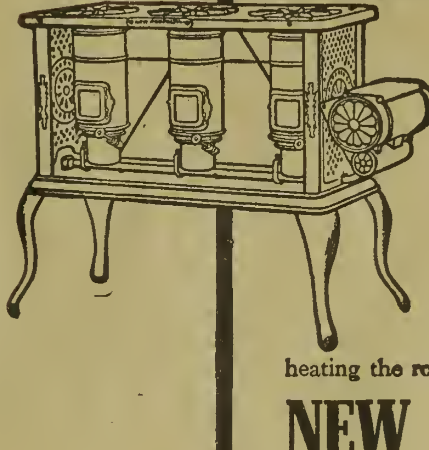
Launder White Waists.

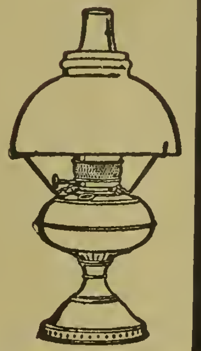
After washing and drying, apply boiled starch, and hang until very dry. When ready to iron, wring out in hot water and put through a wringer. This prevents their shrinking and they will look sheer and fine.

Cleaning Gloves.

To clean suede gloves put them on the hands and then rub them well with fuller's earth applied with a small brush. An old toothbrush or nailbrush will do very well. Some people prefer a mixture of fuller's earth and alum in equal parts to fuller's earth alone.

When taking clothes off the line fold smoothly the wash cloths, bath towels and hose and lay them away without ironing. They are just as good for use as though they were ironed, and the farmer's wife needs to save her time and strength whenever possible.





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No kitchen furnishing is so convenient as this stove. Gives a working heat at once, and maintains it until turned out—that too, without overheating the room. If you examine the

NEW PERFECTION
Wick Blue Flame Oil Cook-Stove

you will see why this is so. The heat from the chimney of the "New Perfection" is concentrated under the kettle and not dissipated through the room by radiation. Thus it does the work of the coal range without its discomfort. Ask your dealer about this stove—if not with him, write our nearest agency.

The Rayo Lamp is a very handsome piece of housefurnishing and gives a clear, powerful light more agreeable than gas or electricity. Safe everywhere and always. Made of brass finely nickel plated—just the thing for the living-room. If not with your dealer, write our nearest agency.

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without high shelf. With high shelf, just as shown in the cut, $19.97; large oven, six cooking holes, best quality of iron. Burns coal or wood. Handsome nickel trimmings. OUR TERMS are the most liberal ever made. You can pay after you receive the range. You can take it into your own home and use it 30 days. If you don't find it exactly as represented, the biggest bargain you ever saw, you won't have to keep it.

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We are prepared to extend to the small depositor the same personal and careful attention that we do our largest accounts.

When writing advertisers, mention Cultivator.

The Produce Markets

Los Angeles Markets

LOS ANGELES, June 24, 1908.

Butter remains as last week, though an effort was made to bear the market during the week, which remains firm however.

Creamery ex per roll	52½
Firsts	50
Dairy	25
Cooking	21
"Butterine"	15@20
Easte.n extras	50

Cheese.

Southern California	15
Northern fresh	13½@14
Longhorn	16½
Eastern singles	15½
Cheddars	17
Imported Swiss	28@30
Swiss	18½
Oregon	18
Limburger	18

Eggs and Poultry.

Eggs have advanced slightly and the market is now very firm. The shortages of receipts will doubtless soon cause another advance within a short time.

Eggs local candled	23
Eggs case count	20@20½
Firsts fresh	22
Eastern fresh	20@21
Storage Eastern	19½@20
Hens per lb	10@12
Young roosters per lb	17
Fryers	17@20
Broilers per lb	15@18
Roasters	16
Old Roosters	7
Turkeys	16@18
Geese	11@13
Ducks	10@12
Squabs	1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 pounds	6¼ @6½
Prime steers	4¼
Heifers	3½@4
Calves per lb	4½@5
Sheep ewes per head	3.75@4.00
Lambs per head	3.00@3.25
Wethers	4.00@4.50

Potatoes.

Highlands	1.50
Early Rose	1.70@2.25
Burbanks	1.25@1.50
Salinas	1.25@1.50
Sweet potatoes per sack	1.65
Oregons	1.60@1.65
White Rose new	1.40@1.50
New potatoes per lb	1.45
Lompoc	1.50@1.60

Onions.

Bermudas per 100	1.60@1.75
Bermuda per crate	1.10
Silverskins new	1.25@1.50
Crystal wax per crate	1.25@1.50
Northern Red	1.40
Garlic	8

Vegetables.

Artichoke per box	50
Asparagus per lb	8@9
Asparagus green per box	1.50
Beets per doz	35
Bell peppers per lb	7@8
Beans limas per lb	7
Beans string	1
Cabbage sack	45@50
Cabbage red per lb	2
Celery per doz	60@75
Celery Golden Heart	60
Corn per doz	80
Chili peppers per lb	7@8
Cucumbers per doz	40@50
Cauliflower per doz	60
Carrots per doz	35
Egg plant lb	5@6
Green onions doz bunches	20@30
Horseradish	12½
Lettuce per crate	85
Mint per box	40
Okra	14
Peas sugar per lb	3
Parsley	30
Parsnips	35@40
Rhubarb per box	50@1.00
Rhubarb northern	1.50
Radishes per doz	15@20
New summer squash per box	15
Summer squash per lb	1½@2
Salsify	15@20
Spinach per doz	15@17½
Turnips doz bunches	35
Tomatoes per crate	50@75

Citrus Fruits.

Navels fy off bloom	2.00
Navels ch	1.50@1.75
Valencias	2.50@3.00
Tangerines	2.00
Grapefruit seedless	2.75@3.00
Grapefruit seedlings	1.50@1.75
Lemons fancy	1.25@2.00
Lemons choice	75@1.00
Limes 15-lb box	75

Fresh Fruits.

Baldwins	1.50@1.75
Greenings	2.25@2.75
Pippins 4-tier	1.50@1.75
W W Pearmains	2.00@2.30
Red Astrachans new	80@90
Apricots per lug box	75
Cantaloupes standard	1.40@1.50
Cantaloupe ponies	1.25
Cantaloupes bulk	35
Cherries	85@90
Cherries per lb	8@9
Royal Annes	85@90
Currants per box	1.00@2.00
Dewberries	4
Figs 15-lb box	1.50
Grapes Thompson seedless	1.00@1.25
Pears per lb	5
Plums Burbanks per box	1.00
Plums Clymans	50
Plums Kelsey	1.50
Plums Tragedy	1.50
Plums Wickson	1.00
Peaches per lug box	75@1.00
Raspberries	4@6
Strawberries	1½@3 1-3
Extra fancy	10
Blackberries	3
Loganberries	3@3½
Gooseberries	8
Watermelons per lb	1½

Dried Fruits.

Apricots	12@14
Evap. apples fy per lb	7
Figs loose white	5
Figs blk	4
Peaches	10
Pears	12½
Nectarines	14
Prunes	4@4½

Beans Dried.

Limas per ctl	5.50@5.75
Pink No 1	3.80
Lady Washington	4.50@4.75
Small white	4.75
Black Eyes	3.80@4.00
Garvanzas	4.80@5.00
Lentils	9@10
Bayou	3.90@4.00

Nuts.

Almonds per lb	15@16
Pecans polished	16@17
Peanuts Virginia	8½
Peanuts California	8½
Walnuts No 1 SS	14

Honey.

Extracted Water White	7@7½
Extracted white	7
Comb W W	16
Comb white	15

Hay.

Price paid to producers f. o. b. Los Angeles are as follows:

Barley No 1	13.00@15.00
Barley No 2	12.00@14.00
Alfalfa northern per ton	12.00@13.00
Alfalfa local	12.50@14.00
Plain oat No 1	15.00@17.00
Wheat No 1	13.00@15.00
Wheat No 2	12.00@14.00

Grain.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl	1.90
Wheat in 100-lb sacks	1.95
Kaffir corn	1.80
Barley	1.55
Corn Eastern sacked	1.90
White oats	1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn	1.95
Shorts	1.80
Bran	1.65
Oil cake meal	2.50
Feed meal	2.00
Rolled barley	1.70

WHY DON'T YOU RIDE IN AN AUTOMOBILE?

In the past few years the automobile has been perfected until now it is almost a perfect piece of mechanism. Then again, the price has been greatly reduced until it is within the reach of almost all, but those who feel that they want a machine for their own use and will use their time for soliciting orders for machines in their immediate neighborhood can make money, and will find it to their advantage to write to the A. W. Gump Company, 1118 South Main Street, Los Angeles, California, who have an advertisement in this issue. This company sells one of the best automobiles made and are very anxious to secure good agents in this State where they are not now represented. The Gump Company handle the Jackson line which comprises four styles of cars ranging in price from $900 up. If you are interested and will write them asking for a catalogue and particulars, you will learn how you can make part of the purchase price of this machine by interesting your neighbors in the same.

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

San Francisco Markets

SAN FRANCISCO, June 23, 1908.

Butter.

Butter remains as last week with much going into storage, which tends to hold market firm.

California extras per lb	23
California firsts	22
California seconds	21
Fresh packing stock	21
Fresh packing stock No 2	20½

Cheese.

California young American fy	13½
Firsts	13
California flats fy	11
Firsts	10½
Young America fy	14½
Eastern fy	16
Oregon fancy	11½

Eggs and Poultry.

Eggs dropped during the week to 21½ and have again advanced nearly to former price, which was 23 cents last week. At present quotations market is firm.

Fresh ranch eggs	22
Eggs firsts per doz	21
Eggs second per doz	19
Eggs thirds	18
Eastern seconds	17
Hens per doz	5.00@6.50
Hens extra	6.50@7.50
Young roosters	7.50@8.50
Old roosters	3.50@4.50
Fryers per doz	6.00@7.00
Broilers per doz	3.00@4.00
Geese per pair	1.75@2.00
Goslings per pair	2.00@2.50
Ducks young	4.00@5.00
Turkeys per lb	14@16
Pigeons	1.35@1.50

Live Stock.

Steers No 1	3¾
Do second quality	3¼@3½
No 1 cows and heifers	3@3¼
Hogs 80 to 200 lbs	6
Hogs 200 to 300 lbs	5½@5¾
Calves per lb	3½@4½
Lambs spring	4¾@5
Wethers No 1	4
Ewes No 1	3½

Potatoes.

Oregon Burbanks	90@1.15
Sweets per crate	2.50@3.00
New Potatoes per ctl	1.00@1.25

Vegetables.

Asparagus per lb	2½@5
Bell peppers	12½@15
Celery per doz	35@50
Cucumbers per doz	65@85
Chili peppers per lb	8@10
Corn per sk	3.50@4.50
Egg plant per lb	6@7
Green peas per sack	1.50@2.25
Lima beans	7@8
Squash per box	85
Onions green per box	50@60
Okra per box	2.00
Rhubarb per box	50@75
Tomatoes	50@75
String beans	4@6
Wax beans	2@5
Garlic new	4@5

Onions.

Eastern red	90@1.10
Bermudas per crate	50@65
Australian Brown	3.00@3.50
Red	60@70
Silverskins	1.00@1.10

Citrus Fruits.

Navels fy	2.50@3.75
Navels ch	1.90@2.10
Valencias fancy	3.50@3.75
Grapefruit seedless	3.50@4.00
Grapefruit seedlings	1.75@2.25
Tangerines	1.50@2.00
Lemons	2.75@3.00
Limes	5.00@5.50

Fresh Fruits.

Newtons	1.65@2.00
Spitzenberg	1.75@2.00
New green per box	50@1.00
Apricots per box	25@50
Blackberries per chest	2.50@4.00
Cherries white per drawer	35@60
Cherries Royal Annes	40@50
Cherries bulk	2½@4
Currants per chest	5.50@7.50
Figs per crate	1.75@2.00
Gooseberries per chest	1.00
Gooseberries per lb	3@7
Loganberries per crate	75
Logans per chest	2.50@3.50
Melons specials	50@65
Melons ponies	1.50@2.00
Melons st	3.25
Plums per box cherry	30@50
Plums Clymans	25@50
Plums Tragedy	50@1.00
Peaches per box	25@60
Alligator pears per doz	7.00@9.00
Raspberries per crate	1.50@1.75
Raspberries per chest	4.00@10.00
Strawberries per chest	4.00@6.00
Longworths per chest	7.00@9.00

Dried Fruits.

New crop contracts for future delivery, 25-lb. lots—Apricots, per lb.: Standards, 6½@6¾c; choice, 6¾@7c. fancy, 8@8½c.

Peaches—Standards, 5½@5¾c; choic 5¾@6c; fancy, 6½@7c.

Apples (evap.)	5@
Apricots per lb	8@1
Figs white	2¼@3¼
Nectarines	10@1
Plums pitted	12@15
Peaches	6@
Pears	5½@
Prunes 4-size bag basis	2¾@3¼

Raisins—1907 crop, f. o. b.: Clusters and Layers, 20-lb. bxs—Imperial Clusters, 6-crown, $2; Dehesa Clusters, 5-crown, $1.75; Fancy Clusters, 4-crown, $1.40; London Layers, 3-crown, $1.10; do, 2-crown, $1.05. Seeded, 25-lb. bxs—Fancy bulk, per lb., 5½@6c; Choice bulk, 5½@6c. Loose Muscatels, 50-lb bxs—Standard, 4-crown, 4c; do, 3-crown, 3¾c; do, 2-crown, 3½c; Seedless. 3¾c. Seedless Sultanas—Unbleached, 4¼@4½c. Thompson Seedless—Unbleached, 4½@4¾c. Dried grapes, 3c.

Beans Dried.

Limas	5.00@5.10
Pink	3.2[illegible]40
Small white	4.50
Large white	4.40
Lady Washington	3.45@
Black eyes	3.40@
Red kidneys	2.75@
Garvanzas	2.25@
Bayo	3.25@
Horse beans	2.25@2

Hops.

Hops per lb	3½@
Hops old fancy	1½

Honey.

Clear white comb	16@
Amber	12@
Extracted	7½@
Beeswax No 1 per lb	26@
Beeswax No. 2 per lb	23@

Hay.

Somers & Co. seem to take a b view of the hay situation, but t farmers are quietly holding, and worrying. Somers and Co. say:

Shipments of hay for the week ending show some increase over t week preceding, the total being tons in comparison with 2650. The market is decidedly unintere from all view points, for trade quiet and neither consumers or d ers seem to have any encouragem to go out and buy new crop h Some new hay is being market right along, but as so little interest shown, there seems to be no esta lished basis on any variety now ar riving and as receivers here diff widely in their ideas it is impossib to quote the market on new crop w any degree of satisfaction. Farme for the most part are holding at rat er extreme figures, which we do n think will be realized this seaso Although the outlook for general trading is far from being discourag yet there is nothing in the imm diate future to give any one particu confidence, so we must naturally f that conservatism in both buying a selling hay should be practiced. Bu ness must be better at some time, b we incline to the idea that trade be quiet for the balance of 1908 least.

Choice wheat hay	16.00@1
Good wheat hay	13.50@15
Other grades same	11.50@13
Wheat and oat	12.00@16
Tame oat	11.00@1
Wild oat	10.00@14
Stock hay	8.00 to 10
Alfalfa	9.00@12
Straw, per bale	50@

Grain.

Wheat No 1	1.62½@1
Barley No 1	1.37½@1.4
Corn small yellow	1.75@1.7
Oats white	1.55@1
Oats gray	1.52½@1.6

Feed Stuff.

Bran per ton	32.00@33
Feed cornmeal per ton	39.00@40
Cracked corn per ton	40.00@41
Rolled barley per ton	31.00@32
Oil cake meal per ton	38.00@3
Cocoanut cakes per ton	28.00@
Middlings	34.00@3

Citrus Market

LOS ANGELES, June 24, 1

Oranges are sadly in the du Immense supplies of small fruits tropicals have satisfied the Ea market so that demands for orang have been very light. Shipments being rapidly reduced which wi doubtless, correct the situation.. Sh ments now run between 30 and 40 car per day.

Lemons, on the other hand, are be ing received with favor. The extreme heat has stimulated the demand till the market is kept clean, notwithstanding the heavy importations of foreigns.

hipments.

Shipments of citrus fruits for the ear aggregate 25,391 cars, of which 44 were lemons. Last year same ate 23,791, of which 2340 were lemons.

NEW YORK, June 22.—One car na- els, one mixed, one seedlings, seven alencias, three St. Michaels, four veets and one lemon sold. Market ontinues very much depressed; lower ı all varieties, due to heavy receipts fresh fruit.

VALENCIAS—	Avg.
ld Mission C C Chapman	$4.80
olden Eagle C C Chapman	3.50
rchard Nat Or Co	3.80
tandard Nat O. Co	3.30
is D M Ft Ex	3.75
lue C Cov Ft Ex	3.75
ougar Cov Ft Ex	2.90
hittier S T Ft Ex	3.45
co S T Ft Ex	2.40
ed & Blue Label TC C F Ex	2.75
ull Value T CC F Ex	1.95
SEEDLINGS—	
tus Ranch	2.90
l Toreador San Mar Gr Co	1.95
olunteer S A Ft Ex	2.30
MEDITERRANEAN SWEETS—	
osmos S B Ft Ex	2.50
veetheart High Ft Ex	2.30
ed C Cov Ft Ex	2.05
ougar Cov Ft Ex	1.60
olunteer S A Ft Ex	2.25
reyhound S A Ft Ex	1.50
lanet S S Ft Ex	1.50
earchlight S S Ft Ex	1.25
S Brand S S Ft Ex	1.50
BLOODS—	
veetheart High Ft Ex	2.20

ST. MICHAELS—Blue Globe, Riv t. Ex., $2.85; Red Globe, $2.05; Blue eal, A. C. G. Ft. Ex., $2.80; Parrot, A. Ft. Ex., $2.90; Sweetheart, High- ove Ft. Ex., $2.30. HALVES—Blue lobe, $1.35.

GRAPEFRUIT—Halves—Blue Globe iverside Ft. Ex., $2.00.

LEMONS—Rialto Girl, $2.55; choice, .05.

PHILADELPHIA, June 22.—Three rs navels, two Valencias, two St. ichaels, four mixed, one lemon sold. velve cars on track. Weather hot d sultry. Market is easier.

NAVELS—	
nkee Doodle High Ft Ex	1.47
unter off bloom A C G Glen	1.77
gle Highgrove Ft Ex	1.47
VALENCIAS—	
ue Globe R F Ex Riv	3.51
ag A C G Ft Ex Glen	4.13
ed Globe R F Ex Riv	2.81
alto Girl Grs Ft Co	3.75
se Red O G Assn	3.06
lden Orchard Ind Ft Co	3.44
ower Grs Ft Co	3.29
T. MICHAELS—	
ritan S B Ft ExRialto	2.72
lly-ho S B Ft Ex Rialto	2.46
d America	2.12
LEMONS—	
lf S T Ft Ex Arroyo P	1.48
ock Label S T Ft Ex Arroyo P	1.04
nnie S T Ft Ex Arroyo P	1.33

BOSTON, June 22.—Weather hot. rket firm on good fruit. Twelve s sold. Twenty-seven on track.

NAVELS—	
ail O K Ft Ex	3.10
incess Q C Ft Ex Cor	1.40
urel Q C Ft Ex Cor	2.15
VALENCIAS—	
g A C G Ft Ex Lateen S	4.50
hittier A C Denman & Son	4.25
inter A C G Ft Ex Lateen S	4.15
T. MICHAELS—	
urel Q C Ft Ex Cor	1.40
rowhead S B Ft Ex High	3.25
WEETS—	
ail O K Ft Ex	2.30
ger S B Ft Ex Colt	2.50
oral S B Ft Ex Colt	2.25
nnel S T Ft Ex Fer	1.55
eyhound S A Ft Ex San Dim	2.20
s Fuentas Crocker S Co Sum	1.70
uirrel A H Ft Ex Pren	3.15
mmercial A H Ft Ex Pren	1.35
chin S T Ft Ex Fernan	1.30

Duck S A F Ex San Dim	2.05
Montecito C S Co Summerland	1.55

PITTSBURG, June 22.—Weather warm. Market is steady on medium sizes, but easier on off and small sizes. Nine cars sold. Eighteen on track.

Yankee Doodle High Ft Ex	2.30
Searchlight S S Ft Ex Or	2.15
Riverside Orange Riv Ft Ex	1.15
S S Brand S S Ft Ex Orange	2.10
VALENCIAS—	
Violet D M Ft Ex Duarte	3.60
Giant Palm	3.50
S S Brand Stewart Ft Co	2.20
Jasmine D M Ft Ex Duarte	3.00
Niagara Stewart Ft Co	3.30
Standard	1.45
ST. MICHAELS—	
Blue Globe Riv Ft Ex Riv	2.65
Sweetheart High Ft Ex	2.50
Hummingbird R Ft Ex Riv	2.10
Chess Queen Ely-Gilmore Co	2.00
Red Globe R Ft Ex Riv	2.45
Yankee Doodle High Ft Ex	1.65
Giant Palm	3.20
RUBY BLOODS—	
Yankee Doodle High Ft Ex	1.65
SWEETS—	
Hummingbird R F Ex Riv	2.05
LEMONS—	
National E B Leach C V	1.85
Pico S T Ft Ex Whit	2.20
Whittier S T Ft Ex Whit	2.50
Picnic S T Ft Ex Whit	1.75

ST. LOUIS, June 22.—Weather very hot. Market is firm on good oranges; advancing on lemons. Seven cars sold. Eleven on track.

NAVELS—	
Yankee Doodle High Ft Ex	1.50
Homegrove S A Ft Ex Clare	1.80
SWEETS—	
Eagle High Ft Ex	2.95
King S A Ft Ex Clare	2.65
Argonaut S T Ft Ex Fuller	3.05
Hacienda S T Ft Ex Fuller	2.65
Cosmos S B Ft Ex Yerkes S	2.20
ST. MICHAELS—	
Stork S A Ft Ex Clare	3.20
Greyhound S A Ft Ex Clare	2.75
SEEDLINGS—	
Sweetheart High Ft Ex	2.75
Yankee Doodle High Ft Ex	1.90
RUBY BLOODS—	
Sweetheart High Ft Ex	2.15
Yankee Doodle High Ft Ex	1.80
VALENCIAS—	
Argonaut S T Ft Ex Fuller	4.10
LEMONS—	
Squirrel A H Ft Ex Arling	3.60
Bridal Veil P & McKev	3.35
Loma Limoneira Ft Co	2.30
Commercial A H Ft Ex Arling	2.55
White Cross P &McKev	2.80

CLEVELAND, June 22.—Weather very hot. Market is firm on good fruit. Six cars sold. Sixteen on track.

NAVELS—	
Black Hawk A H Ft Ex Pren	1.60
ST. MICHAELS—	
Blue Globe R F Ex Riv	3.40
Pansy Colt O Gr Assn	2.60
Golden Strand	2.40
HALVES—	
Blue Globe R F Ex Riv	1.40
VALENCIAS—	
Triumph Cal Cit U	3.35
SWEETS—	
Lighthouse Cal Cit U	2.10
Triumph Cal Cit U	2.55
Golden Strand	1.75
Pansy Colton O Gr Assn	1.25
GRAPEFRUIT—	
Squirrel A H Ft Ex Pren	3.95
Palm Tree A H Ft Ex Pren	3.60
LEMONS—	
Trail S T Ft Ex Lamanda	3.95
Our Beauty S T Ft Ex Lamanda	2.30
Greyhound S A Ft Ex San Dim	3.35
Triumph Cal Cit U	3.45
Canon S T Ft Ex San Dim	3.80
Pet S A Ft Ex San Dim	3.80
Duck S A Ft Ex San Dim	2.85

CINCINNATI, June 22.—Weather very hot. Market is weak. Seven cars sold. Seven on track.

NAVELS—	
Liberty off bloom Love Ft Co	1.65
Hillside Gem Love Ft Co	1.60
Liberty Love Ft Co	1.75
SWEETS—	
Hillside Gem Love Ft Co	1.80
Volunteer S A Ft Ex N Pom	2.60
Greyhound S A Ft Ex N Pom	2.60
ST. MICHAELS—	
Volunteer S A Ft Ex Pom	2.60
GRAPEFRUIT—	
Liberty Love Ft Co	.50
Hillside Gem Love Ft Co	.30
LEMONS—	
Liberty Loveless Ft Co	2.30
Greyhound S A Ft Ex San Dim	2.70
Bridal Veil P & McKev	2.30
Maine Sparr Ft Co	2.20
Silence Flagler Ft Co	2.05
Foxaway Love Ft Co	2.15
Duck S A Ft Ex San Di	1.85
White Cross P & McKev	2.10
Romeo	1.50
La Loma	1.90

A True Plane

When you buy an ordinary plane you have to find out by actual use whether it is true or not.

You know a Keen Kutter Plane, or any Keen Kutter tool, is true before you buy it, because it is stamped with the trademark which guarantees it.

You know it will be perfect in hang, balance, temper, finish and adjustment, because all Keen Kutter Tools are tested and inspected and found worthy to uphold their well-earned reputation as Tools of Service before the name and trademark are stamped upon them. This mark is your safeguard in buying tools. It costs you nothing, but means if anything goes wrong you shall not be the loser. To be sure of lasting, accurate, and practical tools, ask for

KEEN KUTTER
Tools and Cutlery

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Keen Kutter Tools have been sold for nearly 40 years under this mark and motto:

"The Recollection of Quality Remains Long After the Price is Forgotten."—E. C. Simmons. Trademark Registered.

E. C. SIMMONS KEEN KUTTER TRADE ST. LOUIS U.S.A. MARK

If not at your dealer's, write us.

SIMMONS HARDWARE COMPANY (Inc.),
St. Louis and New York, U. S. A.

MENACE TO INDUSTRY.

Continued from page 691.

With tobacco and potash we brought every thrips out, and when they came througn the clusters we killed all of them. While the tree is in full bloom you can spray it without injury to the fruit."

Government Should Aid.

Mr. Whitman spoke of the seriousness of the situation comparing his trees with a neighbors:

"While my pears were blossoming I could find as many thrips in mine as were on his trees. I have been think- think that when the crop is completely destroyed this year possibly the bud will be stronger in succeeding years. Pear thrips, to my mind, is the most serious menace there is to orchardists.

Our university and federal government are spending a good many dollars on the pear blight, which is not as serious as this thrips' matter. This means the destruction of the pear industry of California which the blight does not."

Before the meeting closed the president of the Board was requested to appeal direct to Secretary Wilson for aid, as was noted on editorial page of last week's Cultivator.

Mr. Moulton was thanked for his attendance, and the hope expressed that the Department would send an additional force to help solve this serious problem.

A NEW IMPERIAL.

An event to take place within the next few months that will prove of the utmost importance and interest to the farmers and homeseekers throughout the United States and Canada, is the opening up for settlers of the valley of the Yaqui river.

This valley lies on the eastern coast of the Gulf of Lower California, about 275 miles south of the boundary line of the United States, and is on the Yaqui river division of the Southern Pacific Railway. The soil and climatic conditions are almost identical with those of the now world famous Imperial valley.

The work of taking the water out of the Yaqui river and distributing it over the 550,000 acres of land that comprise this valley is being rapidly pushed to completion and the owners expect to be able to offer the land to small investors late in the fall or early winter.

Owing to the fact that a great many thousand dollars are needed to complete these developments, it has been decided to offer a few thousand acres in large tracts of not less than 1000 acres each, at a price that will attract both speculators and the more conservative investors. It will be possible for the next 60 days, to buy 1000 acres at $12.50 per acre, and this price will include a permanent water right entitling the owner to use such water as he may require, at the rate of 50 cents per acre foot. O. A. Vickrey & Company, 308 South Hill street, have been appointed sole selling agents. Any further information may be obtained at their offices.

BIRDSELL.

"Birdsell" has long been a synonym for perfection in alfalfa and clover hullers. The Birdsell Manufacturing Co. of South Bend, Indiana, is the original manufacturer of the clover huller. Through a period of many years that company has continually raised the standard till now practical perfection is reached. A catalogue has just been issued profusely illustrated. Any one interested in such machines should write at once to the Birdsell people and ask for this booklet.

The Popular
Western
Built In the West Best For the West
FACTORY AT YOUR DOOR
LONGEST LIFE FEWEST PARTS
LEAST FUEL ALWAYS GOES

7 to 500 Horse Power

Irrigation Plants Designed Constructed Installed
U. S. GOVERNMENT TEST
35 H. P. Western Engine Been Run 2 Years
RAN 87 DAYS DAY AND NIGHT
With One 20-Minute Stop to Lace a Belt
Send for the Copy of Test
Western Gas Engine Co.
Works and Office:
908 to 932 No. Main St. Los Angeles, Cal.
Send for Catalogue.

That Small Engine You Have Wanted So Long

For a few weeks we will make special low prices on all our small engines.

HORIZONTAL AND VERTICAL
BE SURE AND SEE US
Norton Engine and Power Co.
201-3 No. Los Angeles St., Los Angeles, Cal.

Commercial Gas Engines
Pump More Water
a given height with one gallon of No. 2 distillate than our competitors. Send for Bulletin No. 11 and see how we do it.
Commercial Engine Co.
953-955 No. Main St. Los Angeles, Cal.

2 TO 50 H. P. HORIZONTAL

STOVER GAS ENGINES
The simplest and the best. We have had long experience installing pumping plants. We know our business. See us before you buy. 2 to 50 H. P.
LIVINGSTON & LEE
352 So. Los Angeles St., Los Angeles, Cal.

500,000 Feet of
Water Pipe and Well Casing
All sizes, any amount Special Prices while it lasts. Write or Phone for Prices.
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Phones: F1917; Broadway 1264

THE
Latest Deep Well
Guaranteed to deliver from 100 gallons per minute upwards, depending on the diameter and capacity of well, from a depth of 50 to 300 feet below the surface. Can be either belt driven or direct connected to electric motor as occasion requires.
Write for Catalogue 46B.
Byron Jackson Iron Works

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